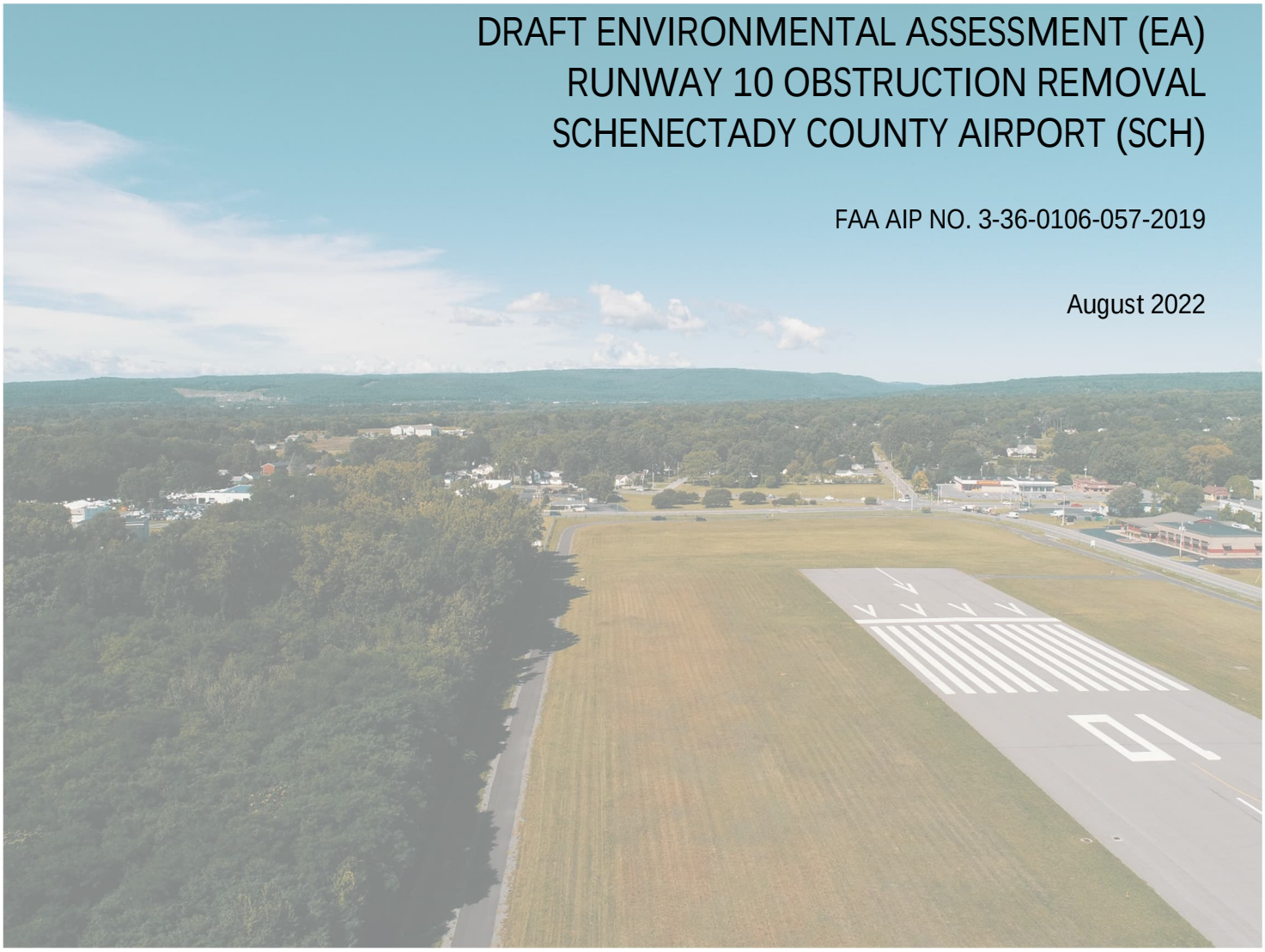
DRAFT ENVIRONMENTAL ASSESSMENT (EA)
RUNWAY 10 OBSTRUCTION REMOVAL
SCHENECTADY COUNTY AIRPORT (SCH)

FAA AIP NO. 3-36-0106-057-2019

August 2022



Prepared for:
Schenectady County, New York

Prepared By:
CHA Consulting, Inc.

DRAFT ENVIRONMENTAL ASSESSMENT

RUNWAY 10 OBSTRUCTION REMOVAL

Schenectady County Airport
Schenectady, New York

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
As Lead Federal Agency pursuant to the National Environmental Policy Act of 1969

AUGUST 2022

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed federal action is consistent with existing national policies and objectives as set forth in Section 101 of the National Environmental Policy Act (NEPA) and other applicable environmental requirements and will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 101 (2) (c) of the NEPA. This environmental assessment becomes a Federal document when evaluated, signed, and dated by the responsible Federal Aviation Administration (FAA) official.

_____ _____

Responsible FAA Official Date

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Cover photo source: CHA, 2020.

LIST OF ACRONYMS

ABBREVIATION	MEANING
AAC	Aircraft Approach Category
AC	Advisory Circular
ACEIT	Airport Construction Emissions Inventory Tool
ACS	American Community Survey
ADG	Airplane Design Group
AIP	Airport Improvement Program
ALP	Airport Layout Plan
ANG	Air National Guard
APE	Area of Potential Effect
APU	Auxiliary Power Units
APV	Approach Procedure with Vertical Guidance
ARC	Airport Reference Code
ASOS	Automated Surface Observation System
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
dB	Decibels
degF	Degrees Fahrenheit
DME	Distance Measuring Equipment
DNL	Day-Night Average Noise Level
DOI	U.S. Department of the Interior
DOT	Department of Transportation
DPF	Diesel Particulate Filters
EA	Environmental Assessment (Federal)
EJ	Environmental Justice
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FMV	Fair Market Value
FPPA	Farmland Protection Policy Act
GPS	Global Positioning Systems
GSE	Ground Service Equipment
HATh	Height Above Threshold
IFR	Instrument Flight Rules
ILS	Instrument Landing Systems
IMC	Instrument Metrologic Conditions
INM	Integrated Noise Model
LDA	Landing Distance Available
LIRL	Low Intensity Runway Lights

ABBREVIATION	MEANING
MIRL	Medium Intensity Runway Lights
MUTCD	Manual of Uniform Traffic Control Devices
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NLR	Noise Level Reduction
NO2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NOX	Nitrogen Oxides
NPA	Non-Precision Approach
NPDES	National Pollutant Discharge Elimination System
NPIAS	National Plan of Integrated Airport Systems
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NYPA	New York Power Authority
NYSCC	New York State Canal Corporation
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	New York State Department of Transportation
NYSOPRHP	New York State Office of Parks, Recreation and Historic Preservation
NWI	National Wetlands Inventory
OCS	Obstacle Clearance Surface
O3	Ozone
PA	Precision Approach
PAPI	Precision Approach Path Indicator
Pb	Lead
PM	Particulate Matter
RCRA	Resource Conservation and Recovery Act
RDC	Runway Design Code
ROC	Greater Rochester International Airport
SCR	Selective Catalytic Reduction
SEQR	State Environmental Quality Review
SIP	State Implementation Plans
SO2	Sulfur Dioxide
SPDES	State Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan
TAF	Terminal Area Forecast
TERPS	Terminal Instrument Procedures
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VFR	Visual Flight Rules

ABBREVIATION	MEANING
VGSI	Visual Guidance Slope Indicator
VOC	Volatile Organic Compounds

1 INTRODUCTION

This Environmental Assessment (EA) documents the evaluation of potential impacts associated with proposed tree removal and/or tree cutting at the Schenectady County Airport (SCH or "the Airport"), which is owned and operated by Schenectady County, New York (Sponsor). The Sponsor's Proposed Action addresses tree obstruction removal for Runway 10 associated with the Code of Federal Regulations (CFR) Title 14, Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace* (Part 77) and published *U.S. Standards for Terminal Instrument Procedures* (TERPS), which both define the airspace surrounding runways. Objects that penetrate the airspace are classified as airspace obstructions and should be removed to accommodate approaching and departing aircraft more safely. As the airspace surfaces extend well beyond the Airport's property boundary, the Proposed Action includes on and off-airport obstruction removal and mitigation, all of which are reviewed in this EA.

In 2015, SCH conducted a comprehensive Airport Master Plan that was approved by the Federal Aviation Administration (FAA). The associated Airport Layout Plan (ALP) drawing set included Inner Approach Surface Drawings and identified several off-airport tree obstructions to Runway 10 located on private residential properties. The Master Plan/ALP identified both 20:1 TERPS and 34:1 Part 77 Approach Surface Penetrations to Runway 10, based on treetop elevation data from 2011. As part of this EA, an updated tree height survey was conducted for the Runway 10 approach and was used to identify recent tree growth and the potential removals.

FAA Order 8260.3D, *U.S. Standards for TERPS*, prescribes standardized methods for designing and evaluating instrument flight procedures, including non-precision approaches applicable to Runway 10 at SCH as further described in Section 1.2. FAA Advisory Circular (AC) 150/5300-13A provides guidance on implementing FAA Order 8260.3D in regard to the safe clearance of approach and departure surfaces, as further described in Section 1.2.

This EA was prepared to satisfy the requirements of the National Environmental Policy Act (NEPA) of 1969 in order to address potential impacts associated with the proposed tree obstruction removal while providing the opportunity for public involvement and comments. The study was conducted in accordance with FAA guidelines, including:

- *Environmental Desk Reference for Airport Actions*
- FAA Order 5050.4B *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*
- FAA Order 1050.1F *Environmental Impacts: Policies and Procedures*

Compliance with NEPA and other federal special purpose laws is required for all federal actions, including the use of Airport Improvement Program funds, which are anticipated to fund a portion of the Proposed Action. On November 24, 2021, the FAA issued their determination of their approval authority based on the requirements included in Section 163 of the FAA Reauthorization Act of 2018.

This EA includes the following chapters:

- Introduction
- Purpose and Need
- Alternatives Analysis and Proposed Action
- Affected Environment & Environmental Consequences
- Public Outreach
- List of Preparers

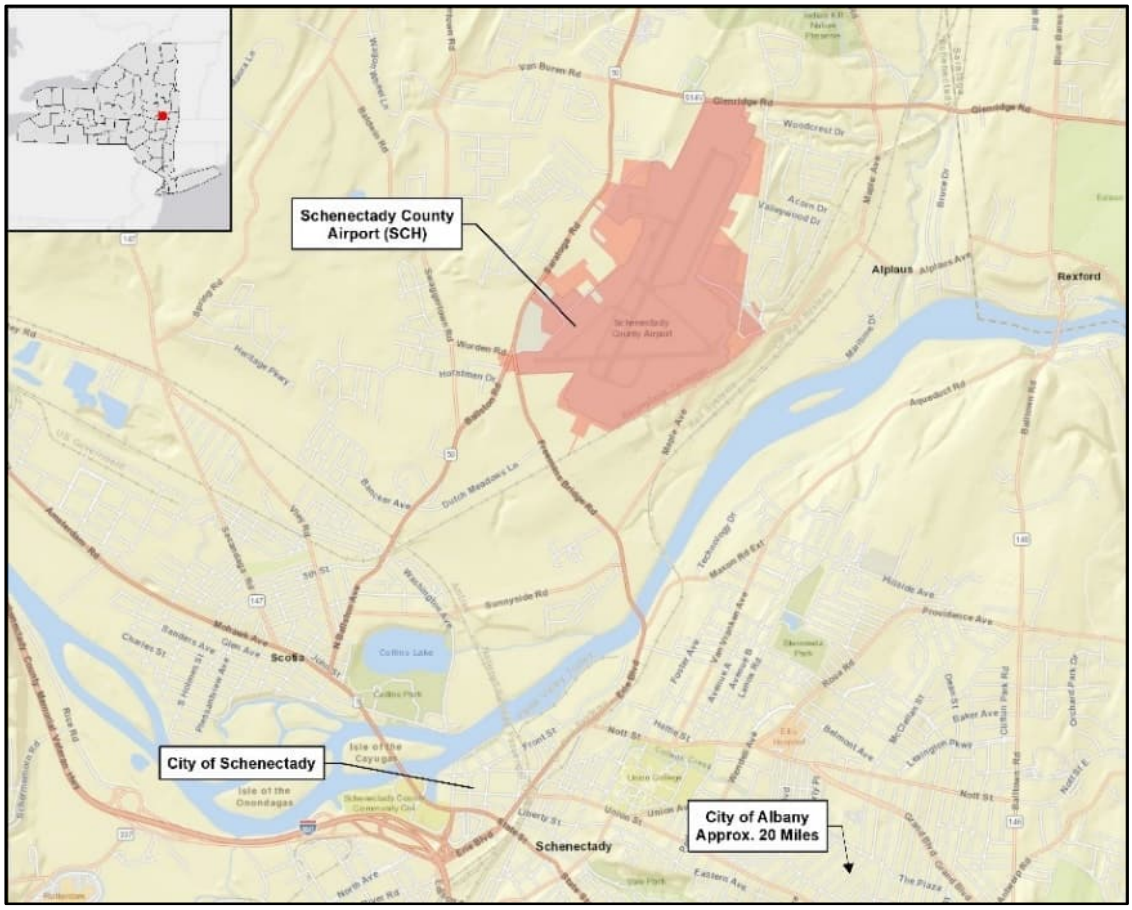
1.1 PROJECT LOCATION AND EXISTING/SUBJECT FACILITIES

The Airport is a public use commercial airport that is owned and operated by Schenectady County. Covering approximately 650 acres, the Airport is located approximately two miles north of the City of Schenectady and is accessible via Airport Road from State Route 50, as shown in Figure 1-1. According to the FAA Terminal Area Forecast (TAF) for the fiscal year 2019, the Airport had a total of 55,499 operations consisting of 31,460 local operations (57% of total operations) and 24,039 itinerant operations (43% of total operations). All local operations were civilian. Itinerant operations consisted of General Aviation (13,129 operations or 55%), Military (7,410 operations or 24%), and Air Taxi & Commuter (3,500 operations or 21%).

The Airport operates two runways: Runway 4-22 and Runway 10-28 (Figure 1-2). Runway 4-22 is the Airport's primary runway, with Runway 10-28 being its intersecting crosswind runway. The subject of this EA is limited to the proposed tree obstruction removal associated with the Runway 10 approach and 500 feet south of its centerline near the approach.

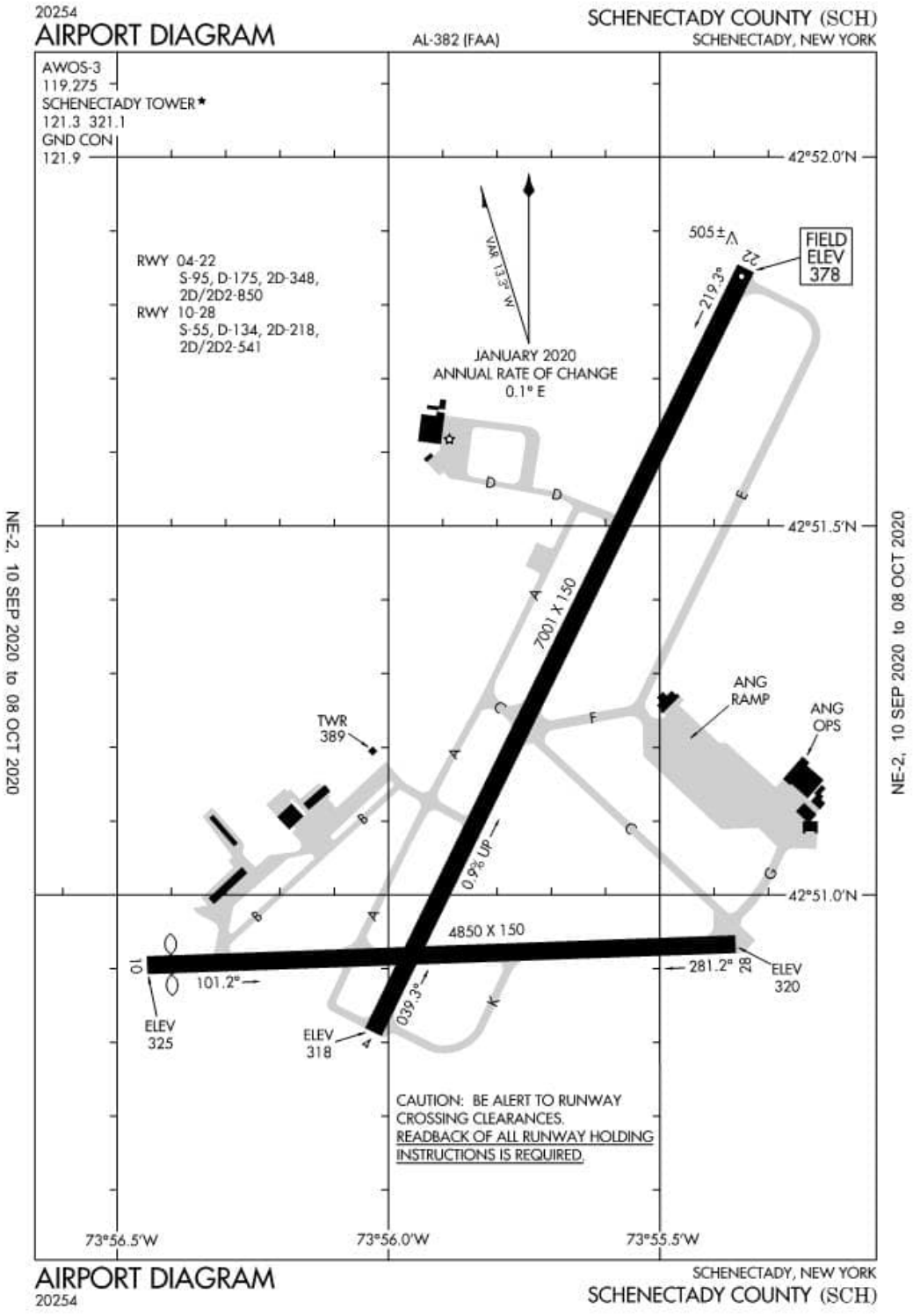
Runway 10-28 is paved grooved asphalt with dimensions 4,850 feet long by 150 feet wide. Runway 10 has a 200-foot displaced threshold. Runway 10-28 is accessible from Taxiway B serving the GA terminal area, Taxiway A serving as a partial parallel taxiway to Runway 4-22, Taxiway C and G serving the Stratton Air National Guard (ANG) Base, and Taxiway K serving as a runway end connector on the east side that connects to Runway 4 from Runway 10-28. Runway 10 is a non-precision approach equipped with RNAV (GPS) and a 2-unit precision approach path indicator (PAPI-2) for visual slope guidance.

Figure 1-1: Regional Location



Source: CHA, 2020.

Figure 1-2: Airport Diagram



Source: FAA, 2020.

1.2 FAA DESIGN STANDARDS

The design, or critical, aircraft is defined as the most demanding aircraft operating or projected to operate on an airport's runway, taxiway, or apron. According to the FAA AC 150/5000-17: *Critical Aircraft and Regular Use Determination*, the design, or critical, aircraft can be either a specific aircraft model or a composite of several aircraft, and it must account for a minimum of 500 annual local or itinerant operations, excluding touch-and-go operations.

The FAA categorizes aircraft by maximum certificated takeoff weight to provide the most relevant airport design standards relative to the critical aircraft. The categories applicable to the Airport are large and small aircraft, which are defined in the FAA AC 150/5300-13A, *Airport Design* as:

- Large aircraft is an aircraft with a maximum certificated takeoff weight of more than 12,500 lb.
- Small aircraft is an aircraft with a maximum certificated takeoff weight of 12,500 lb. or less.

Runway 10-28 at SCH is designated for large aircraft. Runway type is one design standard, among many others, that uses these aircraft categories to define specific design standards relative to the design aircraft. To maximize the utility of a runway, the FAA specifies that a runway must be designed according to its critical aircraft's approach visibility category. The four approach visibility categories, or approach types, include visual that provides no horizontal or vertical guidance, non-precision approach (NPA) that provides only horizontal guidance, approach procedure with vertical guidance (APV), and precision approach (PA) that provides both horizontal and vertical guidance. According to FAA AC 150/5300-13A, these approach visibility categories are defined as:

- Visual runways are designed to support only Visual Flight Rules (VFR) operations; the FAA defines VFR as having a cloud ceiling greater than 3,000 feet above ground level and visibility greater than five miles. These runways are unlighted or lighted with at least low or medium intensity runway lights (LIRL and MIRL, respectively) and have only visual (basic) runway markings. Visual runways are not designed to handle or anticipated to handle any Instrument Flight Rule (IFR) operations now or in the future, except circling approaches; the FAA defines IFR as having a cloud ceiling less than 1,000 feet above ground level and/or visibility less than three miles.

- NPA runways are designed to handle straight-in IFR approach operations to visibilities of 3/4 statute mile or greater and with only lateral guidance. These runways are lighted using at least LIRL or MIRL and have non-precision runway markings. NPA runways are generally at least 3,200 feet in length. At SCH, Runway 10 is an NPA runway.

- APV runways are designed to handle IFR approach operations where the navigation system provides vertical guidance and visibilities as low as 3/4 statute mile. These runways must be at least 3,200 feet in length and have at least MIRL with non-precision runway markings.

- PA runways are designed to handle IFR approach operations supporting instrument approach with Height Above Threshold (HATh) lower than 250 feet and visibility lower than 3/4 statute mile. Runways with Instrument Landing Systems (ILS) are considered PA regardless of the visibility minimums. These runways must be at least 4,200 feet in length, be lighted by HIRL, and have precision runway markings.

Table 1-1 summarizes the design aircraft, runway type, approach type, and visibility minimum for Runway 10.

Table 1-1: Runway End Summary

RUNWAY END	DESIGN AIRCRAFT	RUNWAY TYPE	APPROACH TYPE	VISIBILITY MINIMUM
10	Gulfstream IV	Large	NPA	1 ¼ Statute Mile

Source: SCH ALP, CHA, 2020.

Airspace Obstructions – Part 77

Overall airspace obstructions include penetrations to several defined airspace surfaces but predominantly include the CFR Title 14, Part 77 surfaces and TERPS surfaces, which define the airspace surrounding runways. Part 77 surfaces are more restrictive than TERPS surfaces as they are generally flatter and wider, resulting in a greater number of penetrations, which are discussed below.

Part 77 is used to determine obstructions to air navigation and communication facilities. These are commonly referred to as "imaginary surfaces" and are established with relation to the airport and to each runway. The size of each such imaginary surface is based on the category of each runway according to the type of approach available or planned for that runway. The slope and dimensions of the approach surface applied to each end of a runway are determined by the most precise approach procedure existing or planned for that runway end. The definitions of Part 77 imaginary surfaces are listed below and shown in

Figure 1-3. Table 1-2 summarizes the CFR Title 14, Part 77 surface dimensions for Runway 10 at SCH.

Horizontal Surface

The horizontal surface is established 150 feet above the airport elevation. The perimeter of the horizontal surface is created by swinging arcs of specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs.

Conical Surface

The conical surface extends outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

Primary Surface

The primary surface is longitudinally centered on a runway and extends 200 feet beyond each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

Approach Surface

The approach surface is longitudinally centered on the extended runway centerline and extends outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end.

Transitional Surface

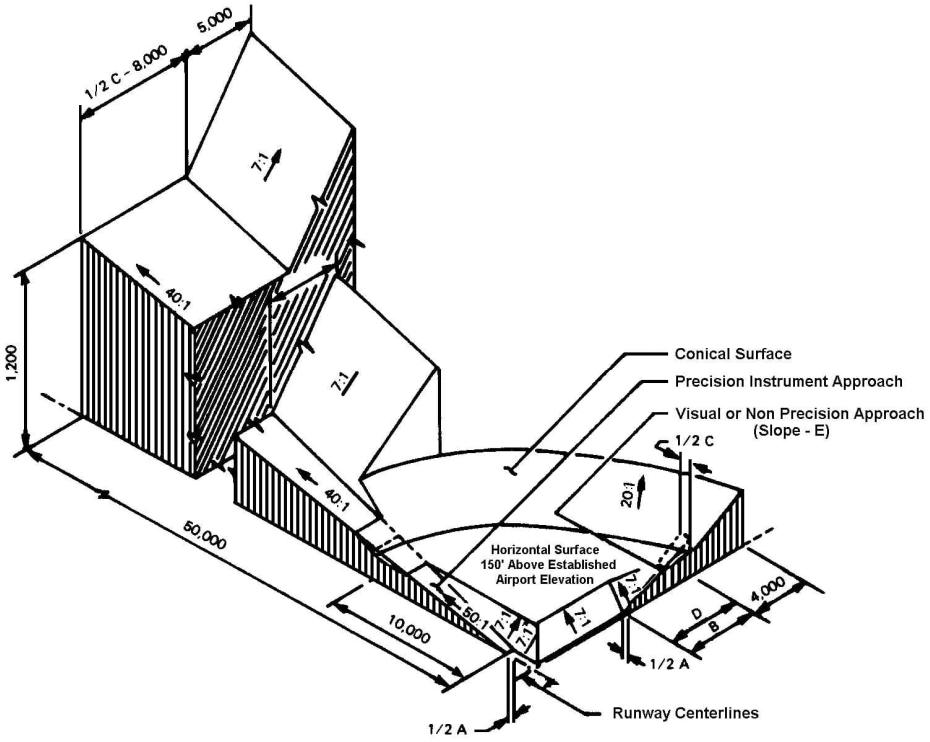
The transitional surface extends outward and upward at right angles to the runway centerline and the runway centerline. A transitional surface is extended at a slope of 7 to 1 from the sides of the primary surface and the sides of the approach surfaces.

Table 1-2: Part 77 Surface Dimensions

SURFACE	RUNWAY 10
Primary Surface Width	500 feet
Horizontal Surface Radius	10,000 feet
Approach Surface Width at End	3,500 feet
Approach Surface Length	10,000 feet
Approach Procedure	Non-Precision
Approach Slope	34:1

Source: CFR Title 14, Part 77, CHA, 2020.

Figure 1-3: Part 77 Surfaces Diagram



Source: National Oceanic and Atmospheric Administration, National Geodetic Survey, retrieved from https://www.ngs.noaa.gov/AERO/3dfar77.html, date unknown.

Airspace Obstructions – TERPS

In addition to Part 77, TERPS are used by the FAA to develop all instrument approaches and other procedures to an airport and to reduce obstructions where possible. These procedures are used by aircraft when visibility and cloud ceilings are low. TERPS are defined in FAA Order 8260.3B and include numerous approach and departure surfaces surrounding runways. As the TERPS surfaces can be complex and differ from the Part 77 surfaces, the FAA has provided overall airport design standards for obstruction clearing beyond any runway.

These obstruction clearing standards are defined in FAA AC 150/5300-13A, Table 3-2 and determine the minimum obstruction removal required for any runway end. Table 3-2 is anticipated to be updated in future FAA AC

150/5300-13B. Until that update is completed and released by the FAA, they have issued FAA Engineering Brief No. 99A (EB99A) (July 24, 2020), which includes these updated standards. As such, this EA includes the updated standards defined in FAA EB99A, as presented in Table 1-3.

The clearing standards outlined in FAA EB99A are designed to protect the use of runway ends in both visual and instrument meteorological conditions and establish a runway end's approach surface, referred to as the Obstacle Clearance Surface (OCS). The OCS is a trapezoidal area that extends away from the runway end along its centerline at a specific slope, starting point, and dimension relative to the applicable OCS(s) described in FAA EB99A. Each runway end has only one applicable OCS between OCS 1-5; however, if the runway end provides, or is expected to provide, an instrument approach with vertical guidance, then the OCS 6 is required in addition to the applicable OCS 1-5. With a visibility minimum of 1 ¾ statute mile and no instrument approach with vertical guidance, only the OCS 4 is applicable to Runway 10.The OCS 4 requires a 20:1 approach surface slope as shown in Table 1-3 and further described in Section 3.1.2.

Table 1-3: EB99A Obstacle Clearing Surface Standards

OCS	RUNWAY TYPE	APPROACH SLOPE
1	Approach end of runways expected to serve small airplanes with approach speeds less than 50 knots. (Visual runways only, day/night).	15:1
2	Approach end of runways expected to serve small airplanes with approach speeds of 50 knots or more. (Visual runways only, day/night).	20:1
3	Approach end of runway expected to serve large airplanes. (Visual runways only, day/night).	20:1
4	Approach end of runways expected to accommodate instrument approaches having visibility greater than or equal to 3/4 statute mile.**	20:1
5	Approach end of runways expected to accommodate instrument approaches having visibility minimums less than 3/4 statute mile.	34:1
6*	Approach end of runways expected to accommodate instrument approaches with vertical guidance.	30:1
* Required in addition to the applicable approach surface established within the table for ILS, GLS, LPV, LNAV/VNAV, and RNP lines of minima. ** Marking and lighting of obstacle penetrations to this surface or the use of a Visual Guidance Slope Indicator (VGSI) may avoid displacing the threshold.		

Source: FAA Engineering Brief No. 99A, 2020, CHA, 2020.

FAA EB99A also defines a departure surface that can be evaluated for any runway that commonly accommodates aircraft departures under Instrument Metrologic Conditions (IMC). For these runways, OCS 7 defines the dimensions and size of the departure surface. It is noted that the departure surface is not required to be cleared; however, the FAA uses penetrations to the surface to restrict departures during poor weather conditions.

When the applicable OCS contains obstructions, an alternative that is sometimes considered is displacing the landing threshold. This process involves moving the runway's landing point a certain distance from the end of the runway, which is called a displaced threshold. As the threshold is moved, so is the associated OCS, and subject tree obstruction may no longer be penetrations. An advantage of this option is to reduce or eliminate the need for tree clearing. However, the disadvantage is the resulting reduction in landing distance available for aircraft.

Runway 10-28 at SCH is 4,850 feet in length and contains a 200-foot displaced threshold on Runway 10, resulting in a Landing Distance Available (LDA) of 4,650 feet. The Runway 10 threshold is displaced in order to mitigate obstructions related to the traffic lights at the five-way intersection of Ballston Road, Freemans Bridge Road (U.S. Route 50), Saratoga Road (U.S. Route 50), Airport Road, and Worden Road. These traffic lights cannot be lowered,

which would remove the displacement of the Runway 10 threshold. In contrast, by providing additional displacement of the landing threshold on Runway 10 to mitigate obstructions would further reduce the landing length and further impact operations at SCH, as discussed in Section 3.2.

1.2.1 Requested Federal Actions

Environmental approval of the project is required to support Airport Improvement Program (AIP) grant-in-aid funding for the proposed improvements. On November 24, 2021, the FAA determined, under Section 163 of the FAA Reauhorization Act of 2018, that it does not have authority to approve or disapprove changes to the ALP for this project, and that a release of obligations is not required for this project. The FAA still has a responsibility to comply with NEPA for a request for federal funding or other Federal approvals for the project.

The following federal actions will be required as part of the project:

- Federal environmental approval of further processing of an application for federal assistance to implement those AIP eligible projects

1.2.2 Timeframe of the Proposed Action

The Airport expects to submit a Final EA and receive an environmental finding in the Spring of 2022. The Sponsor intends to apply for FAA AIP Fiscal Year (FY) 2023 funding, which may include obtaining access agreements, avigation easement negotiations, and design for the tree cutting or removal. The actual tree trimming, or removal is expected to take place in FY 2024.

2 PURPOSE AND NEED

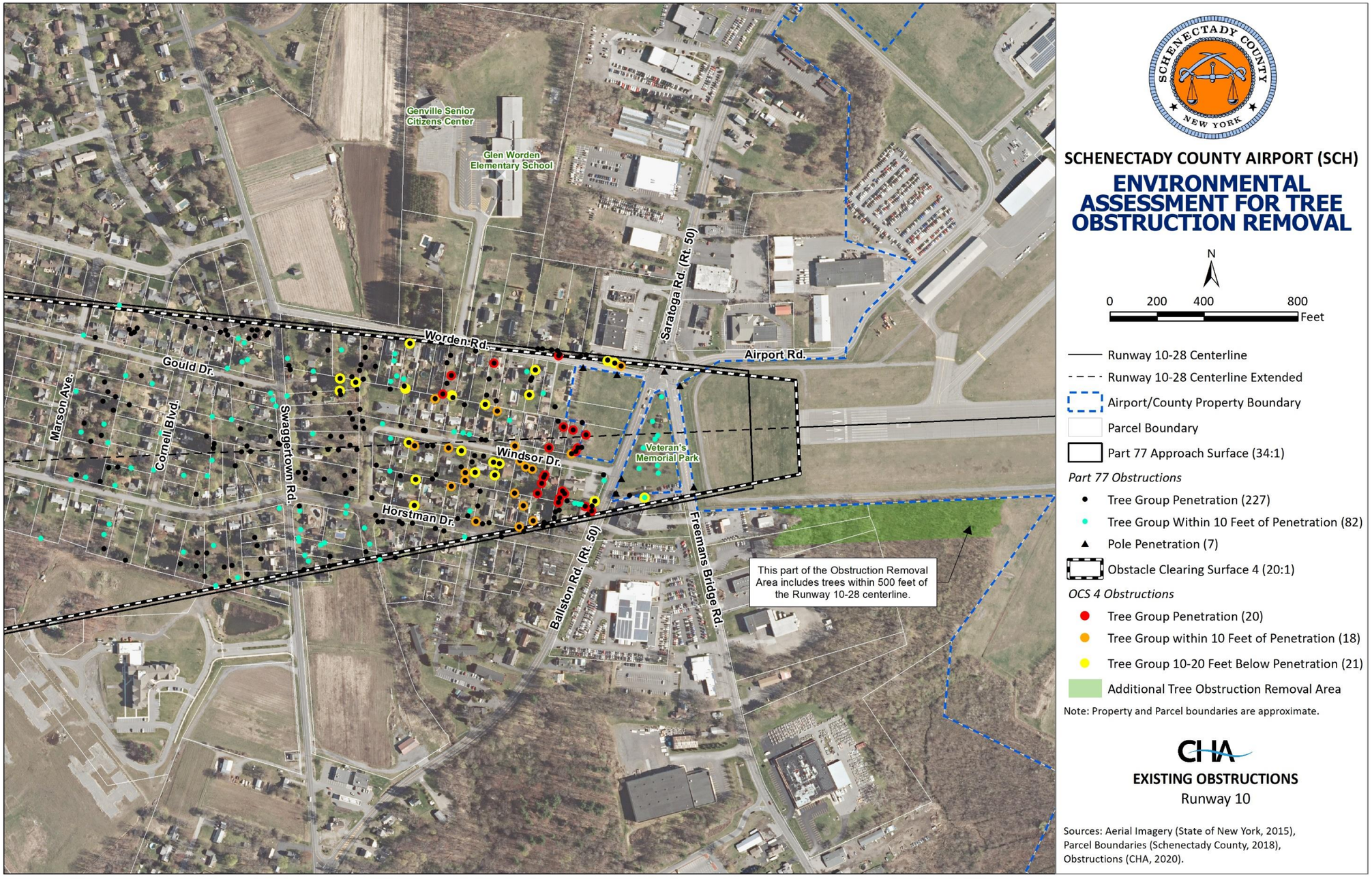
Purpose: The purpose of the proposed project is to enhance airport operations by removing identified tree obstructions currently within the FAA approach surfaces to Runway 10, as well as removing trees within the transitional surface area that are causing turbulence for pilots on final approach. The removal of these trees will improve Airport compliance with FAA design standards and regulations regarding clear airspace consistent with grant assurance 20 while enhancing the overall safety for aircraft operations.

Need: The project is needed as there are numerous tress within the Runway 10 approach which penetrate established airspace surfaces. The FAA has established airspace and design criteria to provide for safe aircraft operations. In 2015, SCH conducted a comprehensive Airport Master Plan and ALP that identified existing obstructions to Runway 10, including design criteria prescribed in CFR Title 14, Part 77 and TERPS. The data was based on treetop elevations from 2011 and updated in 2020 for this EA (Figure 2-1). The need for the proposed tree obstruction removal is to improve compliance with FAA design standards by providing clear airspace to Runway 10, as well as mitigating existing currents on final approach to Runway 10 caused by trees within the transitional surface.

View of Existing Runway 10 Approach

Source: CHA, 2020.

Figure 2-1 – Existing Obstrutions to Part 77 and TERPS Surfaces



3 ALTERNATIVES ANALYSIS AND PROPOSED ACTION

This chapter of the EA addresses the potential alternatives for the proposed tree obstruction removal within the Runway 10 approach at SCH. The Airport Master Plan and ALP approved in 2015 identified areas of tree obstructions to the approach surfaces to Runway 10 based on treetop elevation data from 2011 and updated in 2020 for this EA. The ideal alternative from an aeronautical standpoint would be to remove all penetrations to the Part 77 surfaces and TERPS surfaces (OCSs). However, as part of this study's scoping process, it was determined that this approach would be impractical due to property rights and environmental concerns. Other alternatives would need to be developed.

NEPA and FAA Orders 5050.4B and 1050.1F require the consideration of alternatives commensurate with the purpose and need statement. The intent is to evaluate various options that address the recognized need so that potential environmental impacts can be analyzed and compared. This chapter presents the various options considered and the various options deemed impracticable. It should be noted that an option's impracticality was not used as a screening criterion. Where appropriate, removal methods and site-specific procedures are also discussed.

3.1 ALTERNATIVES UNDER CONSIDERATION

Alternatives for the proposed action were developed to meet the purpose and need, as discussed in Section 2. Several alternatives were considered to clear the airspace within the Runway 10 approach to address the FAA design standards. These alternatives are described in the following sections.

3.1.1 Alternative 1: No-Action Alternative

Pursuant to Section 1501.14(d) of Council of Environmental Quality (CEQ) regulations, a No-Action Alternative is included as part of the analysis. The No-Action Alternative retains all tree obstructions, with the Airport taking no action to address airspace hazards. The existing trees would continue to remain as penetrations to the local airspace. As this option would not remove tree obstructions to provide clear airspace, it is not desirable from the perspective of the flying public. Mitigating obstructions to the airspace is an important mission of the Airport and FAA. In fact, addressing obstructions to the airspace is required by the FAA as part of its grant assurances. Although this alternative fails to meet the purpose and need of this EA to remove obstructions to provide clear airspace for airport users and satisfy FAA requirements or obligations, it serves as the baseline for comparison to the build alternatives.

The No-Action Alternative has the least potential impact on the environment and effect on property owners. This option also has no implementation costs. Airports developed or improved with federal funds are obligated to prevent the growth or establishment of obstructions in the approaches to the Airport and take reasonable actions to remove existing obstructions. This requirement is discussed in the FAA Airport Compliance Manual (FAA Order 5190.6B), which sets forth policies and procedures to be followed by public airports. This requirement is also listed in federal grant assurance No. 20, Hazard Removal and Mitigation of the Airport Improvement Program (AIP), per Federal Statute 49 U.S.C., Section 47101, that states *"[Airport Sponsors] will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards."*

The following box summarizes some of the potential advantages and disadvantages of the No-Action Alternative.

Alternative 1: No-Action Alternative	
Goal: This option minimizes environmental impacts as it takes no action to remove, lower, mark, or mitigate existing or potential future airspace tree obstructions.	
Description: Obstructions have been identified beyond Runway 10. These obstructions to the airspace would remain in place and potentially increase in size and penetration with additional tree growth.	
Advantages	Disadvantages
• No wetland impacts (temporary or permanent) • No impacts to parkland • No impacts or disturbance to property owners • No project costs •	• Retains obstructions to the airspace regarding Runway 10 • Does not improve compliance with FAA design standards or grant assurances • Risks future FAA funding for improvements to the Airport

3.1.2 Alternative 2: Clear Obstacle Clearance Surface Only (Sponsor's Proposed Action)

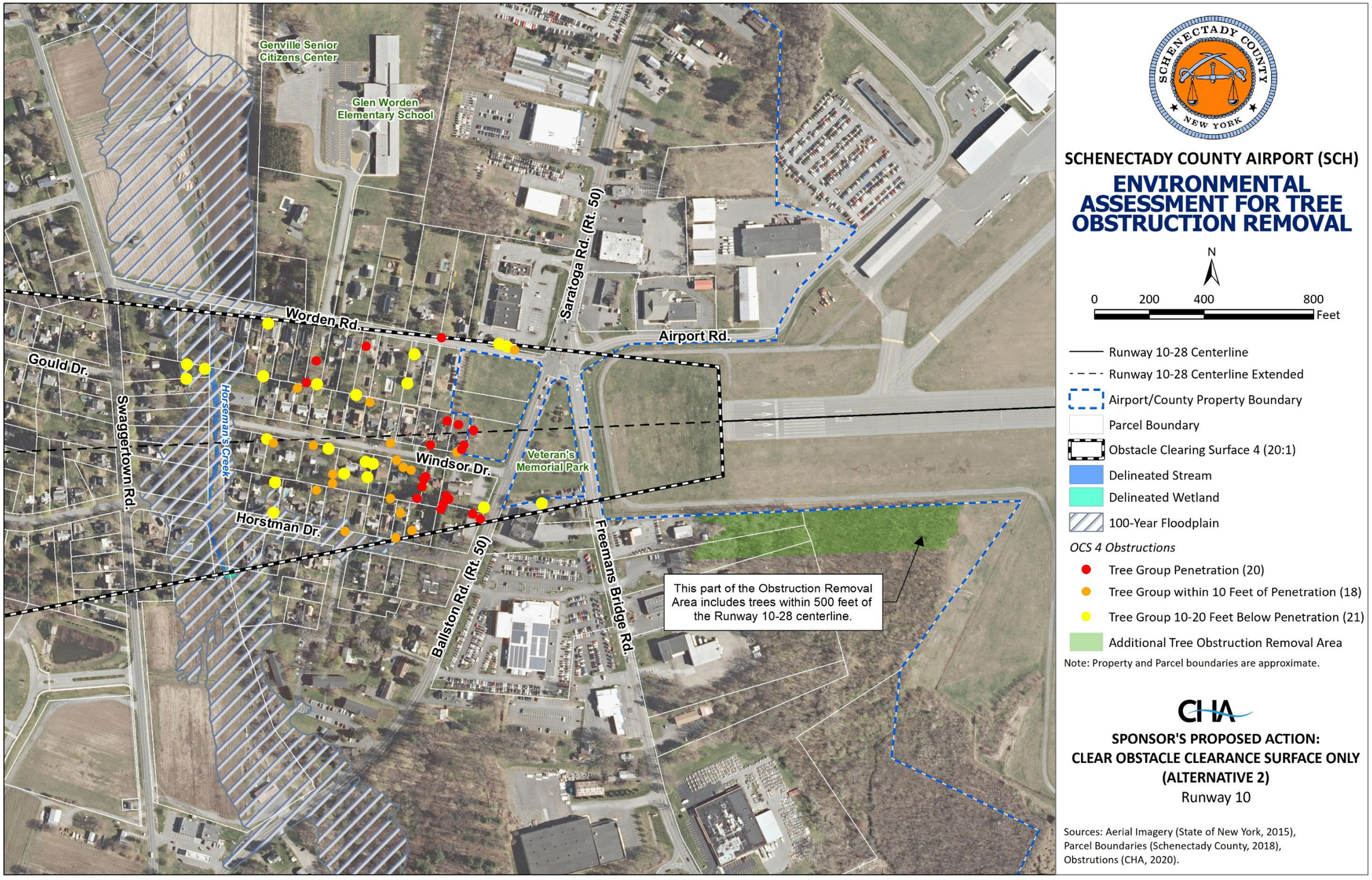
Alternative 2, which is the Sponsor's Proposed Action, will clear obstructions that currently penetrate the OCS 4 as well as obstructions that are currently 1 to 20 feet below of the OCS 4 surface. It is the Sponsor's intent to remove each tree obstruction; however, if a landowner would like the tree trimmed/topped instead of cutting the tree and removing the stump, an analysis of the individual tree would be completed during the easement negotiation phase.

Alternative 2 focuses on clearing obstructions to the OCS 4 rather than the Part 77 Approach Surface because OCSs are steeper in slope (20:1 vs. 34:1, respectively), which reduces the clearing area size and number of obstructions to be cleared. By focusing on clearing obstructions to the OCS 4, private property impacts and the overall tree cutting and/or removal will be limited to approximately 36 privately-owned parcels; whereas in comparison, this number would increase to approximately 95 privately-owned parcels if the Airport pursued clearing obstructions to the Part 77 Approach Surface.. The FAA has recognized that off airport clearing of the Part 77 Approach Surface can be a considerable endeavor and is often impractical due to environmental impacts, costs, and property owner considerations. As such, the FAA Airport Design Manual (draft FAA AC 150/5300-13B that encompasses FAA EB99A) states that the OCSs may be used by an airport sponsor to address the most critical obstructions and maintain an acceptable margin of safety for TERPS. Therefore, Alternative 2 would focus on clearing obstructions to the OCS 4 – not the Part 77 Approach Surface.

Unrelated to the Runway 10 Approach Surface, Alternative 2 includes the cutting or removal of trees 500 feet south of the Runway 10-28 centerline within four private parcels (approximately 3.4 acres), which the Sponsor would like to acquire fee simple. According to the ALP, there are Part 77 transtional surface penetrations within the area identified for removal.

As illustrated in Figure 3-1, tree groups that penetrate the OCS 4 are shown as red dots (approximately 20); tree groups that are within 10 feet of penetrating the OCS 4 are shown as orange dots (approximately 18); and tree groups that are below 10 feet but within 20 feet of penetrating the OSC 4 are shown as yellow dots (approximately 21), resulting in a total number of 59 tree group obstructions. At this time, most of the 59 obstruction points identified by the obstruction survey are believed to be individual trees; however, there are some areas where there may be more than one tree at a specific location. This will be confirmed during the avigation easement phase when each tree will be surveyed to verify the property owner.

Figure 3-1 – Alternative 2: Clear Obstacle Clearance Surface Only (Sponsor's Proposed Action)



All of the OCS 4 tree obstructions to be removed under Alternative 2 are located on privately owned property, with the exception of one obstruction, which is located on County-owned property. To access the obstruction removals on privately owned properties, the Airport will seek permanent 'avigation' easements from affected property owners. Avigation easements refer to a permanent conveyance of airspace from a property owner to the Airport, granting the Airport the right to overfly the property and remove obstructions to a defined airspace surface. These easements involve appraisals, negotiation with the individual property owner, and acquisition of the perpetual rights to remove existing tree obstructions and prevent future obstructions. If a landowner declines to enter into an agreement with the Sponsor to remove the obstructions on his/her property, the obstruction would most likely remain, which could have impacts to the Runway 10 approach minimums in the future. When the Draft EA Notice of Availability is published, the impacted landowners will be contacted via letter letting them know how to obtain a copy of the Draft EA. To reduce potential activities on private properties, small trees and underbrush that are not in danger of becoming obstructions in the near future would be retained. In addition, the following provisions would be part of Alternative 2:

- In undeveloped locations and wetland areas, tree stumps would be left in place to minimize ground disturbance and potential erosion. No equipment would be permitted within delineated wetlands and hand trimming and removal would be required.
- In developed residential locations, if requested by landowners, tree stumps may be removed (via grinding), with minor grading and seeding, removal of woodchips, and general restoration (i.e., clean-up). The only stumps to be removed are trees on private residential property in proximity to homes, where requested. The locations are unknown at this time, but the number of stumps to be removed will be minimal.
- On airport and other public properties, additional clearing may be considered to remove all trees over 10 feet in height to reduce the need for periodic maintenance of tree growth. Small trees and understory would be retained.

Sample: selective removal of trees to reduce impacts to sensitive properties.

Overall, the tree obstruction removal approach and methods would vary based on site conditions, environmental sensitivity, and land use, with the detailed methodology determined during the design and permitting process. Removals are typically conducted during dryer periods of the years or winter (November through March) and when partly frozen ground reduces temporary construction impacts. Winter removals are also beneficial to reduce impacts to bat, bird, and plant species. The following box summarizes some of the potential advantages and disadvantages of Alternative 2.

Alternative 2: Clear Obstacle Clearance Surface 4 Only (Sponsor's Proposed Action)	
Goal: This option removes tree obstructions to the OCS 4 beyond Runway 10 and trees 500 feet south of the Runway 10-28 centerline.	
Description: This tree cutting, or removal alternative is intended to clear obstructions to the OCS 4 and trees within 500 feet south of the Runway 10-28 centerline while minimizing the impact to off-airport properties and the natural environment.	
Advantages	Disadvantages
• Clears tree obstructions from the OCS 4 beyond Runway 10 • Clears trees within 500 feet south of the Runway 10-28 centerline • Satisfies TERPS standards • Improves safety for the aircraft operating at SCH • Streamlines the project schedule and reduces costs • No impact to Veteran's Memorial Park	• Property access is required with property owners. This will be a perpetual avigation easement over the property. • Tree obstructions to the Part 77 Approach Surface that are not concurrently obstructions to the OCS 4 will remain

3.2 ALTERNATIVES CONSIDERED AND DISMISSED

This section includes a brief description of alternatives considered but dismissed because they were deemed impracticable or not meeting the purpose and need.

- Clear Part 77 Approach Surface – Removing all tree obstructions to the Part 77 Approach Surface would satisfy FAA requirements and improve compliance to provide clear airspace. Part 77 surfaces are generally the most encompassing for approach protection. As a result, it would also assure clearance of other airspace surfaces (e.g., TERPS/OCS, PAPI Obstacle Clearance Surface, etc.). However, this alternative would include potentially significant impacts based on the large area involved and the number of residents and properties affected, as shown in Figure 2-1. There would also be potential for Section 4(f) impacts with the removal of trees to Veteran's Memorial Park and the potential need to modify utility poles. The time involved to complete this alternative would be substantial, to the point that the successful completion is questionable due to the number of agreements needed with private parties. Therefore, this alternative was eliminated from consideration as it is considered impracticable.

- Reduce Runway 10 Landing Distance Available – The displacement of a runway's landing location (i.e., threshold) is often used to reduce the number of tree penetrations to OCSs. Currently, Runway 10 has a 200-foot displaced threshold. Adding additional displaced threshold length could reduce the need for tree clearing. However, displaced thresholds reduce the landing length available for airport users. The existing landing length is needed to maintain Airport operations according to its approved Airport Master Plan. As such, this alternative was considered but dismissed. Further reducing the available landing length would diminish the existing capability of the Airport.

3.3 SPONSOR'S PROPOSED ACTION

Based on the evaluation identified in this section and review by the Airport and FAA, Alternative 2: Clear Obstacle Clearance Surface Only has been chosen as the "Preferred Alternative" for the Airport and the Sponsor's Proposed

Action within this EA (refer back to Figure 3-1). The Sponsor's Proposed Action within the Runway 10 approach will clear tree groups that are existing penetrations to the FAA's 20:1 OCS (approximately 20), tree groups within 10 feet of the surface (approximately 18), and tree groups within 10 to 20 feet of the surface (approximately 21). The obstruction clearing will remove the tree, grind the stump, and topsoil and seed; however, in undeveloped locations, tree stumps would be left in place. The proposed tree removal on the south side of the runway end will include clear-cutting but not grubbing (i.e., retention of the stumps and root balls) of all trees, and the understory will be retained.

The Airport identified Alternative 2 as the most practical solution. This alternative balances the Airport's needs and safety while considering environmental considerations, minimizing both cost and private property disturbance, and meeting the purpose and need to provide clear airspace and improve compliance with FAA design standards and regulations. The review considered land use, access, ownership, wetlands, general environmental conditions, and the fact that the No-Action Alternative would not meet the purpose and need.

The remainder of this EA document focuses on the evaluation of potential impacts of the Sponsor's Proposed Action. The goal of the evaluation is to enable the FAA to determine if the impacts of the Sponsor's Proposed Action are significant or could be implemented without significant impact.

4 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This chapter describes the environment that may be affected by the Proposed Action (referred to as "the project"). It describes the potential environmental, social, and economic impacts associated with the Proposed Action. The analysis was conducted in accordance with FAA Order 5050.4B "*National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*," FAA Order 1050.1F "*Environmental Impacts: Policies and Procedures*," and applicable federal and state environmental regulations. Based on the information in this chapter, coordination with federal and state agencies, and review of public comments, the FAA will determine if the Proposed Action would involve significant impacts. The FAA will also ensure that the document presents a full, accurate, and fair assessment of the environmental consequences of the Proposed Action. Anticipated permit requirements and a potential impact summary are provided at the end of the chapter. Consistent with the FAA Orders 5050.4B and 1050.1F, the following impact categories are addressed:

- Air Quality
- Biological Resources
- Climate
- Coastal Resources
- Department of Transportation Act, Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archaeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Noise Compatible Land Use
- Socioeconomics, Environmental Justice, Children's Environmental Health and Safety Risks
- Visual Effects
- Water Resources

4.1 AIR QUALITY

Under the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) developed the National Ambient Air Quality Standards (NAAQS) for six common air pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), sulfur dioxide (SO_2), and lead (Pb). Nitrogen oxides (NO_X) and volatile organic compounds (VOC) are regulated as precursors to ozone. In accordance with the CAA, all areas within New York are designated with respect to compliance or degree of non-compliance. These designations are either attainment, nonattainment, or maintenance. An area with air quality better than the NAAQS is designated as "attainment;" an area with air quality worse than the NAAQS is designated as "nonattainment." Nonattainment areas are further classified as extreme, severe, serious, moderate, and marginal.

4.1.1 Affected Environment

The project area is located in Schenectady County, which is a part of the Hudson Valley Intrastate Air Quality Control Region [40 CFR 81, Subpart B, §81.129]. According to the EPA, Schenectady County is in attainment for all criteria pollutants; therefore, a General Conformity analysis under 40 CFR 93, Subpart B is not required. The study area is limited to the areas of proposed tree clearing.

Based on the Automated Surface Observation System (ASOS) data at the airport, the average high temperature is 60 degrees fahrenheit (degF), and the average low temperature is 43 degF. The wind is predominantly from the northwest and the average wind speed is 7 miles per hour. The airport elevation is approximately 335 feet above

sea level. The area immediately surrounding the airport is relatively flat. The local meteorological and topographical conditions are not expected to hinder the dispersal of emissions.

4.1.2 Environmental Consequences

Two primary regulations apply to air quality: NEPA and the CAA. The need for an air quality assessment to satisfy NEPA depends on the nature of the project, the project area's nonattainment status, and the size of the airport. The CAA amendments of 1990 include provisions to ensure that emissions from federally funded actions within nonattainment areas comply with the goals and objectives of the State Implementation Plans (SIP) for the state where the project is located. Under the NEPA, the impact of a proposed action on air quality must be assessed by evaluating the impact of the proposed action on the NAAQS. According to the FAA's Emissions and Air Quality Handbook, Version 3, an operational emissions inventory is designed to quantify the amounts of criteria pollutant emissions associated with operational activity in the proposed project/action. The results are typically expressed in tons/year segregated by pollutant type, emission source [e.g., aircraft engines, Auxiliary Power Units (APU), and Ground Service Equipment (GSE)], and alternative. There will be no changes in operations, GSE equipment, APU usage, or the number of people traveling to/from the Airport due to the Sponsor's Proposed Action. Therefore, an air quality assessment for NEPA is not required.

The CAA establishes regulations that apply to federally funded projects. These rules and regulations are intended to prevent the federal government from approving or funding a project that will not comply with the SIP. SIPs are developed to ensure that federal air quality standards will be met and maintained through the states. The rules established in the CAA, specifically the General Conformity Rule, apply to airport improvement projects when an airport is within a nonattainment or maintenance area for any of the criteria pollutants. General Conformity refers to the specific requirements under Section 176(c) of the CAA for federal agencies other than the Federal Highway Administration and the Federal Transit Administration. Applicability of the General Conformity Rule is dependent on whether construction emissions will affect attainment as set forth in the SIP. The threshold levels, or *de minimis* levels, for each criteria pollutant are established under the CAA to determine if a proposed action could affect attainment status. Although the project area is in attainment for all criteria pollutants, a construction emissions inventory and applicability analysis for construction equipment was completed.

4.1.2.1 No-Action Alternative

No tree obstruction removal would occur with this alternative; therefore, there would be no impact on air quality.

4.1.2.2 Sponsor's Proposed Action

The Sponsor's Proposed Action was evaluated using the FAA's Aviation Emissions and Air Quality Handbook, Version 3. The project does not include the installation of any emission sources and would not cause permanent increases in air or local traffic. Temporary increases in emissions from construction equipment were estimated using the Airport Construction Emissions Inventory Tool (ACEIT) published by the Airport Cooperative Research Program in Report 102[1]. Emissions of lead will not occur. Although the general conformity analysis under 40 CFR 93, Subpart B is not required, the *de minimis* thresholds at §93.153 can be used to evaluate the significance of the temporary construction emissions. The estimated emissions and significance thresholds are shown in Table 4-1.

Table 4-1: Construction Emissions Analysis

	CO	NO_X	VOC	PM_{10}	$PM_{2.5}$	SO_2
Estimated Construction Emissions (tons)	1.55	0.40	0.36	0.07	0.06	0.002
De minimis Threshold (tons/year)	100	100	50	100	100	100

[1] http://www.trb.org/ACRP/Blurbs/170234.aspx

Source: CHA Analysis, 2020

The estimated emissions are well below the thresholds for all pollutants; therefore, there would be no significant impact on air quality from the Sponsor's Proposed Action. The detailed air quality evaluation and emission estimate are located in Appendix A.

Temporary Construction Impacts

As part of the proposed project, there may be temporary air quality impacts during construction. These potential impacts would be limited to short-term increases in fugitive dust, particulates, and localized pollutant emissions from construction vehicles and equipment. All construction equipment would be properly maintained and outfitted with emission-reducing exhaust equipment. Diesel construction vehicles typically use selective catalytic reduction (SCR) and/or diesel particulate filters (DPF) to control emissions as required by EPA emission standards. In addition, the construction soil and erosion control plan would mitigate potential impacts from fugitive dust.

4.2 BIOLOGICAL RESOURCES

Section 7(c) of the Endangered Species Act (ESA) of 1973 (16 USC 1531 et seq.) requires that the potential impacts to rare, threatened, and endangered species of flora and fauna and their critical habitats be identified to avoid adverse impacts to these species. Federally listed species include those designated as threatened, endangered, or candidate species by the U.S. Fish and Wildlife Service (USFWS). Impacts to state listed animals or plants or significant natural communities must also be assessed.

4.2.1 Affected Environment

The USFWS Information for Planning and Conservation (IPaC) website was reviewed for federally listed species. The website indicated that there are no threatened, endangered, or candidate species listed for the project areas. Additionally, no critical habitats were identified within the project areas (Appendix B). Based on a review of the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service Essential Fish Habitat (EFH) Mapper, there are no EFHs, Habitat Areas of Particular Concern, or EFH areas protected from fishing located within the project areas. According to the New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper (ERM), there are no state-threatened or endangered species known to occur within the project area (Appendix B).

The project has been evaluated for its potential to affect bird species of concern in accordance with the Migratory Bird Treaty Act of 1918 (MBTA, U.S.C. §§ 703-712). The IPaC identified the following list of Birds of Conservation Concern (Appendix B) that may be affected by the proposed project:

- Bald Eagle (*Haliaeetus leucocephalus*)
- Snowy Owl (*Bubo scandiacus*)
- Short-billed Dowitcher (*Limnodromus griseus*)
- Bobolink (*Dolichonyx oryzivorus*)
- Canada Warbler (*Cardellina canadensis*)
- Golden-winged Warbler (*Vermivora chrysoptera*)
- Prairie Warbler (*Dendroica discolor*)
- Wood Thrush (*Hylocichla mustelina*)

The project area within the Runway 10 approach primarily consists of residential neighborhoods with scattered trees and maintained lawns. Within the residential area there is a perennial stream with a small emergent wetland adjacent to the stream. The project area to the south is mostly forested commercial property. A field investigation was completed by CHA on September 29, 2020 to document the habitats within the project areas. Vegetative community types within the project areas are described according to *Ecological Communities of New York State,*

Second Edition (Edinger 2014)[2] and *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin 1979)[3]. Vegetative communities identified within the project areas consist of shallow emergent marsh, mowed lawn, mowed lawn with trees, mowed roadside/pathway and successional southern hardwoods.

4.2.2 Environmental Consequences

A significant impact would occur when the USFWS determines that a federal action would likely jeopardize the continued existence of any federally listed endangered or threatened species or result in the destruction or adverse modification of critical habitat. This section presents the Sponsor's Proposed Action's potential to affect threatened and/or endangered flora or fauna occurring within the project study area.

4.2.2.1 No-Action Alternative

The No-Action Alternative would not affect federally protected species, critical habitat, essential fish habitat, or migratory birds.

4.2.2.2 Sponsors Proposed Action

As discussed in Section 3, the proposed obstruction removal within the Runway 10 approach will remove tree groups that are existing penetrations to the FAA's 20:1 obstacle clearance surface (approximately 20), tree groups within 10 feet of the surface (approximately 18), and tree groups within 10 to 20 feet of the surface (approximately 21). The obstruction clearing will remove the tree, grind the stump, and topsoil and seed. The proposed tree removal on the south side of the runway end will include clear-cutting but not grubbing (i.e., retention of the stumps and root balls) of all trees, and the understory will be retained.

The USFWS IPaC website indicated that there are no federally threatened, endangered, or candidate species listed and no critical habitats within the project area. There are no EFHs, Habitat Areas of Particular Concern, or EFH areas protected from fishing located within the project areas. The NYSDEC ERM also indicated no state-threatened or endangered species are mapped within the project areas (Appendix B). Therefore, it has been concluded that there would be no impact to these resources.

As noted above, CHA completed a field investigation to document the habitats within the project areas. The communities consist of shallow emergent marsh, mowed lawn, mowed lawn with trees, mowed roadside/pathway and successional southern hardwoods. Of the eight species of migratory birds listed as "Birds of Conservation Concern" in Section 4.2.1, no suitable habitat is present within the project areas for the snowy owl, bald eagle, both warblers, and the short-billed dowitcher. The snowy owl is a transient and although occasionally seen in New York, it will use available habitat as necessary for resting and foraging. A more open habitat would likely improve foraging options for this species. The bald eagle would also be a transient within this area. The short billed dowitcher is a shorebird, so its habitat is not present within the project areas. In addition, habitat for bobolink is grasslands, prairie and golden winged warblers prefer shrubby habitats and the Canada warbler prefers coniferous or deciduous forest with mossy and shrubby understory. No impact to these habitat types are proposed.

The wood thrush, a bird species, can be found in mature deciduous and mixed forests and will also nest in suburban areas where trees are large enough; therefore, the wood thrush could nest in the residential area. However, not all trees would be removed within the residential project area and vicinity; therefore, habitat for the wood thrush would remain in the residential area. The wood thrush could also be found in the forested area

[2] Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. *Ecological* Communities *of New York State.* Second Edition. A revised and expanded edition of Carol Reshke's *Ecological Communities of New York State*. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

[3] Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe, 1979. *Classification of wetlands and deepwater habitats of the United States*. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.

proposed to be cut on the south side of the Runway 10 end; however, although the trees would be cut, the understory would remain. Various small tracts of forested habitat in the vicinity are not part of the project and could provide habitat to the wood thrush; therefore, habitat in the project vicinity for the wood thrush would remain available. In addition to habitat remaining outside of the project areas, as discussed below, the tree cutting is not proposed within the breeding season of the wood thrush which is May 10th to August 31st.

The Proposed Action would not cause a long-term or permanent impact on migratory birds. There would be no adverse impacts to special status species or their habitats, nor would there be substantial impacts on native species' habitats or populations. There would be no adverse impacts on a migratory bird species' reproductive success rates, natural mortality rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance. Suitable habitat for most of the migratory birds does not exist within the proposed impact areas; therefore, those species will not be displaced by this project. For some species, the tree removal project could improve the habitat over time by reducing tree cover.

Any tree cutting will be completed between November and March to avoid the breeding season, as cutting within this timeframe is the preferred approach to minimize potential impacts. Therefore, there would be no significant impact to migratory birds.

4.3 CLIMATE

Carbon dioxide (CO_2) and other greenhouse gases (GHGs) are released into the air when fossil fuels are used to generate electricity, used in furnaces, or used to power aircraft and vehicles. CO_2 makes up the majority of GHG emissions, with lesser contributions from nitrous oxide (N_2O), methane (CH_4), and other compounds such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

4.3.1 Affected Environment

The study area is limited to the areas of proposed tree clearing. The study areas are within the Runway 10 approach and on the south side of the runway end. The study area within the Runway 10 approach is solely residential, while the study area on the south side of the runway end is primarily forested with a small area of commercial property.

4.3.2 Environmental Consequences

Although there are no federal standards for aviation related GHG emissions, it is well-established that GHG emissions can affect climate. The Council of Environmental Quality (CEQ) has indicated that climate should be considered in NEPA analyses. As per the 1050.1F Desk Reference, the CEQ has noted, *"it is not currently useful for the NEPA analysis to attempt to link specific climatological changes, or the environmental impacts thereof, to the particular project or emissions; as such direct linkage is difficult to isolate and to understand."*

4.3.2.1 No-Action Alternative

The No-Action Alternative will have no impact on climate.

4.3.2.2 Sponsor's Proposed Action

The project does not include the installation of any emission sources and would not cause permanent increases in air or local vehicular traffic. As previously discussed, the temporary increase in emissions from construction equipment were estimated as part of the Air Quality analysis in Section 4.1. Emissions of CO_2, CH_4, and N_2O result from the use of combustion equipment. Emissions of HFC, PFC and SF6 will not occur.

The GHG emissions from construction activity were estimated as 255 tons; however, there are currently no significance thresholds for GHG emissions. The Capital District Regional Planning Commission completed a greenhouse gas inventory for 2010 and estimated total greenhouse gas emissions of 1.68 million tons per year for

Schenectady County. The Sponsor's Proposed Action would result in GHG emissions that are 0.02% of county-wide emissions; therefore, there would be no impact on climate. Additionally, this is a temporary emission, whereas the Capital District Regional Planning Commission's inventory includes estimates for yearly (ongoing) emissions. Therefore, no significant impacts are anticipated.

4.4 COASTAL RESOURCES

The Federal Coastal Zone Management Act (CZMA) of 1972 established the Federal Coastal Zone Management Program to encourage and assist states in preparing and implementing management programs to "*preserve, protect, develop, and, where possible, to restore or enhance the resources of the nation's coastal zone*."

4.4.1 Affected Environment

There are no areas within Schenectady County that have been designated as coastal zones pursuant to the CZMA. The New York State Coastal Management Program protects the state's valuable natural and man-made resources. Based on a review of the New York State Coastal Boundary Map, the project areas are not located within a designated coastal zone. Additionally, based on a review of the Coastal Barrier Resources System Mapper, the project areas are not within an area mapped as coastal barrier. Since there are no coastal resources present, no further analysis is required.

4.5 DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F)

Section 4(f) of the Department of Transportation (DOT) Act of 1966 (recodified in 1983 as Title 49, Section 303(c) of the United States Code (USC)) provides for the protection of publicly owned recreational resources and historic sites. The Act requires the analysis of potential impacts to these resources arising from DOT actions.

4.5.1 Affected Environment

Resources protected under Section 4(f) include public parks and recreation areas, as well as wildlife and waterfowl refuges or management areas of national, state, or local significance. Section 4(f) also applies to historic sites of national, state, or local significance as determined by the official with jurisdiction over these historic resources. Such sites include those that are listed or eligible for inclusion in the National Register of Historic Places (NRHP), as well as those identified by appropriate state or local agencies as having historic significance.

- Public Parks & Recreation Areas: A review of on-line mapping and field reconnaissance indicates there is one publicly owned park in the vicinity of the project area. Veterans Memorial Park, a 1.5-acre park owned by Schenectady County, is located approximately 600 feet from the end of Runway 10.

- Wildlife Management Areas: Based on mapping resources (www.wilderness.net and www.nationalatlas.gov), there are no national forests, wildlife management areas, or wilderness areas near the project area.

- Historic Sites: Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, affords protection of historic sites that are on or eligible for inclusion in the NRHP. According to correspondence received from the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), there are no NRHP listed or eligible resources that will be affected by the project (Appendix C).

4.5.2 Environmental Consequences

According to FAA Order 1050.1F Desk Reference, "*a Section 4(f) use would occur if the proposed action or alternative(s) would involve an actual physical taking of Section 4(f) property through purchase of land or a*

permanent easement, physical occupation of a portion or all of the property, or alteration of structures or facilities on the property." Use, within the meaning of Section 4(f), includes not only the physical taking of such property but also "constructive use." The concept of constructive use is that a project that does not physically use land in a park, for example, may still, by means of noise, air pollution, water pollution, or other impacts, dissipate its aesthetic value, harm its wildlife, restrict its access, and take it in every practical sense. Constructive use occurs when the impacts of a project on a Section 4(f) property are so severe that the activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Prudent and feasible alternatives must first be considered before approving a use.

4.5.2.1 No-Action Alternative

No tree obstruction removal would occur with this alternative; therefore, there would be no impact on Section 4(f) lands.

4.5.2.2 Sponsor's Proposed Action

Although Veteran's Memorial Park is in the vicinity of the project area, there is no tree removal proposed within the park, and the park will remain accessible throughout the project. Additionally, the Sponsor's Proposed Action would not impact the visual character of this resource. Therefore, the project will have no significant impact on 4(f) lands due to the obstruction removal, and no formal Section 4(f) consultation is required.

4.6 FARMLANDS

The Farmland Protection Policy Act (FPPA) of 1981 authorizes the U.S. Department of Agriculture (USDA) to develop criteria for identifying the effects of federal programs on the conversion of farmland to non-agricultural uses. The prime and unique farmland regulations require that the USDA determine whether land affected by any Proposed Action is prime and unique farmland. If the proposed project involves acquiring farmland that would be converted to non-agricultural use, it must be determined whether any of that land is protected by the FPPA.

4.6.1 Affected Environment

According to the Web Soil Survey from the Natural Resource Conservation Service (NRCS) (Appendix D), there are no soil types identified as farmland of statewide importance mapped in the potential affected area's vicinity. Fredon silt loam (Fr) has been identified as prime farmland if drained within a tiny portion of the project area to the west of the runway end (southwest corner). The remaining soils within the project areas are rated as not prime farmland. Based on a review of the 2010 Census Bureau Map of Urbanized Areas, the project areas are mapped as urban.

4.6.2 Environmental Consequences

The NRCS within the USDA has established guidelines under the FPPA for federal activities that involve directly undertaking, financing, or approving a project that would impact farmland soils. The guidelines recognize that farmland quality varies based on soil conditions and place a higher value on soils with high productivity potential. To preserve these highly productive soils, the NRCS classifies soil types as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. The NRCS requires that soils in these categories be given proper consideration before converting them to non-farming uses by federal programs. The NRCS policy and procedures on prime and unique farmland are published in the Federal Register (Volume 43, No. 21, January 31, 1978). The project was analyzed using this information to determine its impact.

4.6.2.1 No-Action Alternative

No tree obstruction removal would occur with this alternative; therefore, there would be no impact on prime or unique farmlands.

4.6.2.2 Sponsor's Proposed Action

As previously discussed, the project areas are mapped as "urban" by the U.S. Census Bureau. Based on this information, the NRCS indicated in a letter dated April 24, 2020, that the proposed project is exempt from review and does not require the submission of a Farmland Conversion Impact Rating Form AD-1006 (Appendix E). The Proposed Action would not involve the conversion of farmland to non-agricultural uses, and it would not include any development activities, new impervious areas, or acquisition of property. Therefore, there would be no impact on farmland, and no additional evaluation is necessary.

4.7 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

This section provides an impact analysis of hazardous materials, solid waste, and pollution prevention. The analysis considers impacts as defined by the FAA's thresholds of significance contained in the FAA Order 1050.1F Desk Reference: "*a significant impact for hazardous materials, pollution prevention, and solid waste is one where the proposed action or connected action involves property on or eligible for the EPA's National Priority List (NPL).*"

Hazardous materials are products or waste regulated by the EPA and NYSDEC. These include substances regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and regulations for solid waste management, above-ground storage tanks, and underground storage tanks (USTs).

4.7.1 Affected Environment

In an effort to identify potentially contaminated areas within the project areas, environmental databases were reviewed to determine if any documented concerns were identified within or immediately abutting the limits of the tree removal areas. Sanborn Fire Insurance Maps and historic aerial photographs were also reviewed to evaluate historical uses of the lands within the project areas presenting possible contamination sources. In addition, a visual site inspection of the project areas was conducted by CHA in September 2020.

A review of Sanborn Maps and historic aerial photographs indicated that the area within the project limits was residential property since at least 1950. Neighboring properties were developed from farmland to residential and commercial mix usage. The properties within the limits of the tree removal area for the Runway 10 approach consist mainly of residential properties. The majority of the parcels within the project limits have private sewer systems and use the public water supply. Several residences use fuel oil as the fuel source for their heating systems; however, none of the fuel oil tanks were outside the structures, so they do not represent potential sources of impact on soils in the area.

The properties adjacent to the tree removal area on the southside of the runway end are commercial in nature. One is being used as an auto dealer at 178 Freemans Bridge Road. Based on review of the Environmental Data Resources, Inc. Radius Map Report, there are no reports of spills or other releases associated with that property. While some solid waste (concrete blocks, metal, truck cap, and old tires) was observed during the visual site inspection in September 2020 on the west end of this tree removal area, there are no indications of the potential for contamination or a release of any kind in this area. No potential areas of concern were identified within the project limits during the data review and site inspection completed for this project.

4.7.2 Environmental Consequences

The FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention. The Sponsor's Proposed Action and the No Action were reviewed to determine if the following would occur violate hazardous waste or solid waste regulations, produce a significant amount of hazardous waste, impact a contaminated site, or impact the human health and environment. Based upon the review of federal and state environmental regulatory agency databases, historic Sanborn Maps, historic aerial photographs, and the

observations recorded during a field inspection of the site, it has been determined that no areas of concern relative to the potential to encounter hazardous materials or contaminated subsurface matrices were identified.

4.7.2.1 No-Action Alternative

No tree obstruction removal would occur with this alternative; therefore, there would be no impact associated with hazardous materials.

4.7.2.2 Sponsor's Proposed Action

The Sponsor's Proposed Action, in and of itself, does not create hazardous materials or result in direct impacts on the environmental status of soils or groundwater in proximity to each specific tree removal location. In particular, the tree removal in the area on the southside of the runway will include clear-cutting but no grubbing, and all stumps, root balls, and understory will remain, making ground disturbance very minimal. No potential areas of concern were identified. There will be no impacts to potentially contaminated soil or groundwater. Therefore, there would be no significant impact associated with hazardous waste.

Solid waste generated would be limited to timber and associated vegetative matter. Tree removal activities would be conducted by a licensed and insured tree removal contractor. With the exception of limited vegetative matter that may be spread on site for decomposition, all materials, such as salvageable timber (lumber), firewood, and woodchips for landscaping or pellets, would be recycled, removed, or transported off site by the contractor, as specified in the design plan. No significant solid waste impacts are anticipated.

The Sponsor's Proposed Action would not violate regulations, does not involve a known contaminated site, would not produce hazardous waste, would have limited solid waste generation, and would not adversely affect human health and the environment. Therefore, as stated above would have no significant impact.

4.8 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Section 106 of the NHPA of 1966 protects properties that are listed or determined to be eligible for inclusion in the NRHP. The NHPA requires federal agencies to consider the effects of their undertakings on historic properties and to consult with the State Historic Preservation Office (SHPO) and other parties to develop and evaluate alternatives and modifications to the undertaking that could avoid or minimize potential impacts to historic resources. The New York State Office of Parks, Recreation, & Historic Preservation (NYSOPRHP) is the SHPO in New York responsible for maintaining historical, archaeological, and cultural resources sites throughout the state.

4.8.1 Affected Environment

The Areas of Potential Effect (APE) has been identified as the limits of the project areas located within the Runway 10 approach and the south side of the runway end (Appendix D). According to the SHPO Cultural Resources Information System (CRIS), there are no historic or cultural resources on or in the immediate vicinity of the Airport. However, CRIS does map the project areas and the surrounding area as located within an archaeologically sensitive area (Appendix C). Given the amount of ground disturbance in the area from roadway construction, residential neighborhoods, local businesses, and the Airport itself, the NYSOPRHP determined historic properties would not be affected by the Sponsor's Proposed Action. Refer to Section 4.8.2.2 for further information. Based on a review of the NYSOPRHP Map of Indian Nation Areas of Interest, Schenectady County falls within areas for the Mohawk and Mohican Indian Nations. Therefore, these Indian Nations have been identified as having the potential to attach cultural significance to resources within the APE.

4.8.2 Environmental Consequences

Section 106 of the NHPA requires federal agencies to review the potential effects of a proposed project on cultural resources. Through consultation, agencies identify historic properties within or adjacent to the project area and

find ways to avoid, minimize, or mitigate the potential effects on the identified resource while accommodating the proposed project.

4.8.2.1 No-Action Alternative

The No-Action Alternative would not impact historical, architectural, archaeological, or cultural resources as this alternative would not include any tree removal.

4.8.2.2 Sponsor's Proposed Action

Early coordination with SHPO was initiated to determine the impacts on historical or cultural resources as a result of the Sponsor's Proposed Action. Correspondence with SHPO, dated October 29, 2020, states they have reviewed the project and determined historic properties would not be affected by the Sponsor's Proposed Action. A copy of the correspondence with SHPO has been included in Appendix C. The project does not include grubbing and will not disturb Native lands; therefore further coordination and analysis is not necessary.

The project will not affect eligible or listed historic architectural or archaeological resources; therefore, pursuant to 36 CFR 800.11(d), the FAA issued a finding of No Adverse Effect for the Sponsor's Proposed Action on March 23, 2021. In accordance with 36 CFR §800.8(3) (c), the EA will use the NEPA process to fulfill the requirements of Section 106. As such, the public notice for the Draft EA will serve as the notice of availability for the No Adverse Effect finding. If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, construction in the immediate area should be stopped, and the SHPO will be notified immediately.

4.9 LAND USE

Potential impacts from airport actions that may affect land use compatibility (besides noise) are the disruption of communities, relocation of residences and business, and induced socio-economic impacts.

4.9.1 Affected Environment

The project areas are within the Runway 10 approach and on the south side of the runway end (Appendix D). The project area within the Runway 10 approach is solely residential, while the proposed project area on the south side of the runway end is primarily forested with a small area of commercial property. Veteran's Memorial Park, a 1.5-acre, County-owned park, is located between Ballston Road and Freemans Bridge Road, approximately 600 feet from the end of Runway 10.

The project areas are within the Town of Glenville, as shown on the United States Geological Survey (USGS) topographic map and aerial location map (Appendix D). According to the 2016 Town of Glenville's Land Use Map, the land uses within the project areas are Public Services (0.5 acres), Wild, Forested, Conservation Lands and Public Parks (1.7 acres), Residential (21.1 acres), Commercial (5.6 acres), Agricultural (0.2 acres), and Vacant Land (2 acres) (Appendix D).

According to the 2018 Town of Glenville's Official Zoning Map, the project areas are zoned as Airport Zoning, Public Park Lands, Suburban Residential, and General Business.

4.9.2 Environmental Consequences

The assessment of potential land use and planning effects of the No-Action Alternative and the Sponsor's Proposed Action focuses on identifying applicable federal, regional, state, and local land use plans and policies and assessing the alternatives' consistency to these plans and policies. The CEQ regulations require discussing environmental impacts, including possible conflicts between the Proposed Action and the objectives of federal, regional, state, and local land use plans, policies, and controls for the area concerned. Where an inconsistency exists, the NEPA document should describe the extent to which the agency (FAA) would reconcile its actions.

4.9.2.1 No-Action Alternative

Under the No-Action Alternative, none of the proposed tree removal would occur. The existing land use within the project area would remain unchanged.

4.9.2.2 Sponsor's Proposed Action

Based on a review of the Town of Glenville Comprehensive Plan (October 2017), the Sponsor's Proposed Action will not impact traffic-related initiatives, impact future land uses, or change future land uses. No changes in land use are proposed. The Airport will seek permanent 'avigation' easements from affected private property owners. For the tree removal area to the south of the runway, the Airport anticipates acquiring a portion of the land by fee simple purchase.

The Sponsor's Proposed Action would not change the existing land uses within the project areas or alter airport operations or flight patterns. The effects of tree removal on other environmental issues have been evaluated in this EA and have been found to have no significant impacts. Although not well defined in NEPA or other state environmental review processes, these environmental issues tend to collectively account for community character and quality of life within a community or neighborhood. They can lead to discussions of land use compatibility. The Sponsor's Proposed Action represents a maintenance activity, not a change in land use. The fact that the obstruction removal has been demonstrated in this EA not to result in any significant impacts on environmental and social-cultural resources further supports the fact that this action will not impact land use compatibility or community character and quality of life. Therefore, there would be no significant impact on land uses or zoning.

4.10 NATURAL RESOURCES & ENERGY SUPPLY

The NEPA regulations that address the use of energy and natural resources are discussed in FAA Order 5050.4B and FAA Order 1050.1F. The CEQ Regulations (CFR Title 40, Section 1502.16(e) and (f)) specify that the environmental effects of a Proposed Action and its reasonable alternatives should include an assessment of each alternative's energy requirements, energy conservation, and the use of natural or consumable resources.

4.10.1 Affected Environment

Airport operations require energy in the form of electricity, natural gas, aviation fuel, diesel fuel, and gasoline to power, cool, heat, and provide lighting. Energy requirements associated with airport development generally fall into two categories: those for stationary facilities (terminal and other buildings) and those for aircraft operations. Stationary facilities use utility energy (electric energy and natural gas) to provide lighting, cooling, heat, and hot water to buildings, the airfield, and parking areas. Aircraft operations consume fuel to operate the aircraft and power GSE that service the aircraft. Finally, natural resources, such as sand, gravel, water, wood, concrete, asphalt, and steel, are typically used during airport construction projects. Energy demands associated with the Proposed Action are expected to be minimal as an increase in the demand for energy supplies would only occur during the tree removal and be limited to construction vehicles and equipment. The project is anticipated to take approximately four weeks.

4.10.2 Environmental Consequences

FAA Order 1050.1F does not establish any significance thresholds for natural resources or energy supply. For the purpose of this EA, significant impacts would occur when construction or operation of an action would cause demand for rare consumable natural resources and/or energy to exceed available or future supplies.

4.10.2.1 No-Action Alternative

Under the No-Action Alternative, no construction activities requiring consumable natural resources or energy would take place; therefore, no effects related to natural resources or energy supply would occur.

4.10.2.2 Sponsor's Proposed Action

As discussed above, the Sponsor's Proposed Action's energy demands are expected to be minimal as an increase in the demand for energy supplies would only occur during the tree removal and be limited to transportation and construction vehicles and equipment. Therefore, the project would not impact local or regional supplies. There would be no significant impact on natural resources and energy supply.

4.11 NOISE & NOISE COMPATIBLE LAND USE

The FAA has adopted land use compatibility guidelines for preparing airport noise studies. According to federal regulations, a Day-Night Average Noise Level (DNL) below 65 decibels (dB) is considered to be compatible with all land uses. In comparison, noise levels between DNL 65 and 75 are considered incompatible with residential areas and schools but compatible with other activities. Within the DNL 65 to 75 dB range, homes and schools could be insulated to achieve an outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB. However, in areas with a DNL over 75, residential land use is considered incompatible. DNL levels over 75 are also regarded as incompatible with hospitals, places of worship, and recreational activities.

4.11.1 Affected Environment

The 2014 Airport Master Plan Update included a noise evaluation conducted to determine if noise generated by the Airport exceeds levels outlined for land use compatibility by federal standards (per 14 CFR Part 150). The noise evaluation identified baseline noise levels for the year 2011 and projected noise levels per the master plan development and activity forecast for 2031. The project areas within the Runway 10 approach were all below 65dB and, therefore, compatible.

As previously stated, the project areas are mostly residential within the approach to Runway 10. The affected environments that could be impacted by noise generated by the Sponsor's Proposed Action are the residential neighborhood where the tree removal will occur, Veteran's Memorial Park, and the Glen Worden Elementary School and Glenville Senior Citizens Center, which are both approximately 700 feet north of the project areas. No other sensitive areas have been identified. The adjacent roads and the development all contribute to the ambient noise of typical suburban areas. Suburban areas, such as those within the project areas, are subject to many noise sources, including construction noise associated with the construction of all types and maintenance activities on roads and other infrastructure. Daytime noise levels in these areas can range from 60-80 decibels.

4.11.2 Environmental Consequences

According to the FAA Order 1050.1F Desk Reference, it may be necessary to include noise sources other than aircraft departures and arrivals in the noise analysis. This need can be determined by examining the action and determining the potential impacts caused by noise other than departing/arriving aircraft. Some examples are taxiing, construction noise, noise from related roadway work, and roadway noise.

4.11.2.1 No-Action Alternative

No tree removal would occur as part of the No-Action Alternative; therefore, there would be no impacts associated with noise.

4.11.2.2 Sponsor's Proposed Action

The proposed project does not create any nonconforming land use, change any runway end location, or recommend any runway extension. The project does not change the fleet mix of aircraft operating at the airport or the frequency of aircraft operations. As such, no additional noise analysis is required in addition to the active and existing noise plan approved for the Airport.

As with any construction project, construction equipment and construction traffic would temporarily generate noise. Noise levels and potential adverse effects due to construction activities would vary depending on the type

of equipment, duration of operation, and time of operation. Noise levels generated by typical construction equipment are shown in Table 4-2. For comparison, Table 4-3 shows noise levels generated by common sources.

Table 4-2: Noise Levels of Typical Construction Equipment

EQUIPMENT	TYPICAL NOISE LEVELS (dBA at 50 FEET)
Front Loaders	85
Backhoes, Excavators	80-85
Tractors, Dozers	83-89
Graders, Scrapers	85-89
Trucks	88
Cranes (movable derrick)	83-88
Jack Hammers, Rock Drills	98
Compactors	82
Drill Rigs	70-85

Source: CHA, 2020

Table 4-3: Common Noise Levels

NOISE SOURCE	NOISE LEVELS (dBA)
Jet Aircraft (at 300 feet)	130
Rock and Roll Concert	110
Pneumatic Chipper	110
Jointer/Planer	100
Chainsaw	90
Heavy Truck Traffic	80
Business Office	70
Conversational Speech	60
Library	50
Bedroom	40
Secluded Woods	30
Whisper	20

Source: CHA, 2020

There is a potential that the nearby residential area, Veteran's Memorial Park, Glen Worden Elementary School, and Glenville Senior Citizens Center would experience short-term noise impacts during times when the Sponsor's Proposed Action is under construction (i.e., tree removal activities). The noise from construction would be temporary. The tree removal would take place Monday through Friday from the hours of 7:00 AM to 5:00 PM. Work would not occur on Saturdays, Sundays, and state and federal holidays nor from 5:00 PM to 7:00 AM without permission from the municipality. The project is short term and is anticipated to take approximately four weeks. Additionally, all construction equipment and vehicles would be properly maintained, equipped with functional mufflers, and tuned to minimize the potential for noise. Upon project completion, ambient noise levels would return to pre-existing conditions.

The Sponsor's Proposed Action will not introduce new sources of ground-level noise, as operations at the Airport will remain unchanged. The residential area does not contain dense stands of trees that would have any effect on noise. The tree removal at the south side of the runway end would involve clear-cutting; however, this is unlikely

to significantly affect ambient noise from existing ground-level airport operations since the understory will remain and trees typically have little impact overall on noise abatement. Distance is the primary factor in noise reduction, and the distance between on-ground airport operations and existing residences will not change as a result of this project. No significant adverse impacts are anticipated.

4.12 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

According to FAA Order 1050.1F, the FAA must evaluate proposed actions and their effect on the surrounding community's socioeconomics. Socioeconomic resources include population, income, employment, and economics. Socioeconomic resources also include sensitive populations, such as minorities, low-income communities, and children, as mandated by Executive Order (EO) 13045 *Protection of Children from Environmental Health Risks and Safety Risks* and EO 12898 *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*. EO 13045 states that federal agencies shall identify and address environmental health and safety risks from their activities, policies, or programs that may disproportionately affect children. EO 12898 serves to avoid the disproportionate placement of adverse environmental, economic, social, or health impacts from federal actions and policies on minority and low-income populations.

The EPA defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Title VI was enacted as part of the Civil Rights Act of 1964 to protect against discrimination based on race, color, and national origin in programs and activities receiving federal financial assistance. To prevent further occurrences, EO 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* was authorized in 1994.

4.12.1 Affected Environment

The first step in complying with EO 12898 is to identify if minority or low-income populations occur within or in close proximity to the project area such that the action could impact them. The CEQ regulations have defined an area as predominately minority if the minority population is 50 percent (50%) or greater. According to the EPA Environmental Screening and Mapping Tool (EJSCREEN), the project area is covered by three census Block Groups (360930324022, 360930324023, and 360930324043). As shown in Table 4-4, all three Block Groups fall below the thresholds of minority population or low-income cohorts required to trigger an environmental justice analysis.

Table 4-4: Project Area Block Groups

BLOCK GROUP	TOTAL POPULATION	MINORITY POPULATION (%)	LOW-INCOME POPULATION (%)
360930324022	1,477	25%	8%
360930324023	651	6%	20%
360930324043	2,573	10%	14%

Source: EPA EJSCREEN, 2019 Version

The U.S. Census Bureau follows the Office of Management and Budget's Statistical Policy Directive 14, which determines the poverty threshold using a set of income thresholds that vary by family size and composition. If a family's total income is less than the threshold, that family, and every individual in it, is considered low-income. The poverty threshold established by the U.S. Census Bureau in 2019 for a four-person household, with two people being children under the age of 18, was used to determine the low-income populations. The average poverty threshold is $25,926. The census tracts (324.02 and 324.04) within the project areas were used in this analysis. A

summary of the estimated median household income and mean household income is provided in Table 4-5. The data indicates the census tracts within the project areas are not considered low-income.

Table 4-5: Summary of Estimated ACS Income Levels

GEOGRAPHY	MEDIAN HOUSEHOLD INCOME	MEAN HOUSEHOLD INCOME
Town of Glenville	$75,018	$86,440
Census Tract 324.02	$82,571	$92,098
Census Tract 324.04	$82,016	$98,300

In addition to the EJSCREEN tool, the NYSDEC Map of Potential Environmental Justice Areas in Schenectady County was reviewed. The project areas are not within a potential Environmental Justice area.

There is a residential area within the project limits. The American Community Survey (ACS) data was reviewed for Block Group 3, Census Tract 324.04, which includes that residential area. The data was reviewed to identify how many children live in that census tract as well as their ages. The population by age group is shown in the table below.

Table 4-6: Population by Age Group

TOTAL POPULATION	NUMBER/ PERCENT
Age under 5	33/ 1.2%
Age 5-9	310/ 11.6%
Age 10-14	152/ 5.7%
Age 15-19	75/ 2.8%

The Glen Worden Elementary School is located approximately 700 feet north of the western project area.

4.12.2 Environmental Consequences

The FAA has not established significance thresholds for socioeconomic effects. The FAA has identified factors to consider when evaluating potential environmental impacts for socioeconomics, environmental justice, and children's environmental health and safety.

4.12.2.1 No-Action Alternative

The No-Action Alternative will not impact economic growth in the area, disrupt or divide established communities, cause the relocation of residences or businesses, disturb local traffic patterns, or affect the community tax base. There would not be disproportionately high and adverse human health or environmental impacts to minority and low-income populations or children attributable to construction associated with the No-Action Alternative.

4.12.2.2 Sponsor's Proposed Action

Socioeconomics

Social impacts can consist of a wide range of considerations, as discussed below. The social and economic concerns are always specific to a proposed action and may include impacts such as displacement of residents, neighborhood disruption, tax base reduction, school population changes, change in public services, and other community concerns. Socioeconomic impacts are typically defined as disruptions to surrounding communities, including shifts in patterns of population movement and growth, changes in public service demands, loss of tax revenue, and changes in employment and economic activity stemming from airport development. These impacts may result from the closure of roads, increased traffic congestion, acquisition of business districts or neighborhoods, and/or disproportionately affecting low income or minority populations.

There would be no land acquisition, population displacement, or neighborhood disruption due to the project. Property values are unlikely to be impacted by tree removal; therefore, there would be no impact on any sector's tax base or tax revenue. A permanent avigation easement is not expected to impact property values; however, this cannot be determined until appraisals are completed, as each property will be different depending on the location and the amount of trees on the given property. The Fair Market Value (FMV) of each easement will properly mitigate any temporary impact to the overall property value and the future housing market will determine ultimate property values. With no displacement impact on populations, there would be no impact on school populations.

The project does not affect the delivery of existing or future public services. This lack of impact also applies to children's environmental health and safety risks, which may be associated with the pollution of air, food, water, recreational waters, soil, or products that are likely to be exposed to a child. Therefore, the project would not have the potential for significant impacts to this or any population category.

Environmental Justice

According to FAA Order 1050.1F, the FAA has not established a significance threshold for environmental justice; however, the FAA has identified factors to consider. "*The factors to consider that may be applicable to environmental justice include, but are not limited, to a situation in which the proposed action or alternative(s) would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population, i.e., a low-income or minority population, due to:*

- *Significant impacts in other environmental impact categories; or*
- *Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines is unique to the environmental justice population and significant to that population*."

The project is not located within an environmental justice area; therefore, it would not impact minority or low-income populations.

Children's Environmental Health and Safety Risks

The Sponsor's Proposed Action would not result in environmental health and safety risks. Further, the project would not create or make more readily available products or substances that could harm children by contact or ingestion through the air, food, drinking water, recreational waters, or soil. Therefore, the project would not result in any significant impacts on children's health or safety.

4.13 VISUAL EFFECTS

According to FAA Order 1050.1F, the FAA must evaluate the visual effects of the Proposed Action. According to 1050.1F Desk Reference Chapter 13 (Visual Effects), visual effects are broken into two categories: (1) light emissions and (2) visual resources and visual character. The following subsections describe the existing condition of these categories within the affected environment.

4.13.1 Affected Environment

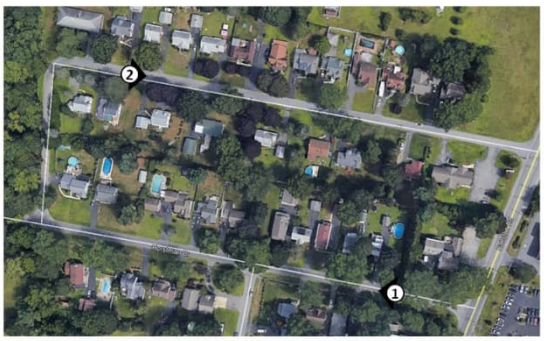
4.13.1.1 Light Emissions

The project areas are located within the Runway 10 approach and on the south side of the runway end. The project area within the Runway 10 approach is residential and has limited existing lighting. Existing lighting along Horstman Drive and Windsor Road is limited to small-scale residential fixtures. There are no streetlights within the neighborhood. Cobra-style streetlights are found along Ballston Road and at the intersection of Ballston Road,

Freemans Bridge Road, and Worden Road. The south side of the runway end is primarily forested with a small area of commercial property. Existing lighting is again limited to smaller-scale building-mounted fixtures. Veteran's Memorial Park is located between Ballston Road and Freemans Bridge Road and does not have existing lighting.

4.13.1.2 Visual Resources & Character

The existing visual character of the affected environment is closely tied to the land use in the area. As previously discussed, the Runway 10 approach is characterized by residential land use. The residential streets do not have sidewalks, medians, or formalized street lighting. Large canopy trees are found in both the front and back yards of properties throughout the neighborhood. Both Horstman Drive and Windsor Road have utility poles and lines that run along the southern side of the street. Street trees below and adjacent to the utility poles have been cut back and trimmed. Despite the consistent land use in this area, the tree canopy in both front and back yards is patchy and contributes to a varied visual character throughout the neighborhood. The existing visual character within this area can be seen in the images.



Key Map
Shows location of photos shown below. Also note the existing patchy nature of tree canopy throughout the neighborhood.

Image 1
View of Horstman Drive. Note utility poles along south (left) side of the road. Inconsistent overhead tree canopy.

Image 2
View of Windsor Drive. Note utility poles along south (right) side of the road. Inconsistent overhead tree canopy.

The south side of the Runway 10 end is primarily forested with a small area of commercial property. The varied land uses in this area results in an inconsistent visual character.

4.13.2 Environmental Consequences

Impacts from light emissions and visual quality associated with the Sponsor's Proposed Action and the No-Action Alternative were determined by evaluating the extent to which airport lighting would change and the potential for the change to create an annoyance for land uses. Impacts to visual resources and character were determined by considering the potential changes in landscape and views within the project areas.

4.13.2.1 No-Action Alternative

The project areas have a reasonable ambient light environment and a visual character that is dominated by the Airport, local roadways, and scattered commercial and residential areas. Under the No-Action Alternative, no tree removal would occur. Subsequently, no impacts to the existing visual character or light environment would occur.

4.13.2.2 Sponsor's Proposed Action

Light Emissions

The Sponsor's Proposed Action would not result in light emissions. No new airport lighting or modifications to existing lighting are proposed. Much of the existing canopy associated with the trees to be removed does not provide screening from street lighting from Ballston Road. The existing vegetation that is lower is not being removed and will continue to provide screening from roadway lighting.

Visual Resources & Character

Visual resources and visual character impacts are typically related to a decrease in an area's aesthetic quality, resulting from development, construction, or demolition. An analysis of visual impacts considers whether the alternatives would affect, obstruct, alter, or remove visual resources, including buildings, historic sites, or other landscape features such as topography or vegetation, which are visually important or have unique characteristics. According to FAA Order 1050.1F Desk Reference, the significant determination is dependent on the following criteria:

- Would the action have the potential to affect the area's visual character, including the uniqueness and aesthetic value?
- Would the action have the potential to contrast with the visual resources in the area?
- Would the action have the potential to block or obstruct the views of visual resources?

The Sponsor's Proposed Action is not anticipated to impact the project area's visual resources or visual character. The only notable visual resource within the project area is Veteran's Memorial Park, located between Ballston Road and Freemans Bridge Road, approximately 600 feet from the end of Runway 10. Veteran's Memorial Park does not contain tall trees that may impact the Runway 10 approach. As such, the Proposed Action would not impact the visual character of this resource.

As previously discussed, the existing visual character of the residential neighborhood within the Runway 10 approach and the small commercial area to the south is inconsistent and varied. Within the residential area, the proposed tree removals would further create a patchwork of tree canopy, and as such, the proposed visual character of the neighborhood would remain varied. The proposed tree removals near the commercial area to the south of the runway would not impact this area's visual character. No significant visual impacts to the project areas are anticipated due to the tree obstruction removal project.

4.14 WATER RESOURCES

Water resources are comprised of surface waters and groundwater that are important in providing drinking, recreation areas, essential habitat for wildlife, and aquatic ecosystems. Wild and scenic rivers, surface water, groundwater, floodplains, and wetlands are all included under the water resources category.

4.14.1 Affected Environment

4.14.1.1 Wetlands

Jurisdictional wetlands and waters of the United States, including Traditional Navigable Waters (TNW), are regulated under Sections 401 (Water Quality Certification) and 404 of the Clean Water Act (CWA) for the discharge of dredged or fill materials. TNW and associated wetlands are also regulated under Section 10 of the 1899 Rivers and Harbors Act. In addition to these federal regulations, federal agency actions that affect wetlands are also addressed under EO 11990. Federal agencies must document their efforts to avoid and minimize impacts to wetlands through the NEPA process.

Prior to visiting the project areas, the NYSDEC Freshwater Wetlands Map and the USFWS National Wetlands Inventory (NWI) map were reviewed (Appendix D). No NYSDEC freshwater wetlands or 100-foot buffers are mapped within the project areas. However, there is a state wetland mapped to the north of the project area. It is identified as wetland S-104 and is a Class I wetland. A review of the NWI map indicates the project area is transected by a perennial stream (Horstman Creek/ R5UBH). No other mapped features are present within the project area; however, there are mapped wetlands south of the project area identified as Palustrine, Forested, Broadleaved Deciduous, Seasonally Flooded/Saturated (PFO1E), Palustrine, Scrub-shrub, Broadleaved Deciduous, Seasonally Flooded/Saturated (PSS1E), and PFO1E/SS1E.

CHA completed a wetland delineation on September 29, 2020, to understand the extent of the wetland resources within the project areas (Appendix F). Wetlands were delineated pursuant to the United States Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual and current regional supplement.

The wetland boundaries were determined in the field based on the three parameter approach, whereby an area is a wetland if it exhibits vegetation adapted to wet conditions (hydrophytes), hydric soil indicators, and the presence or evidence of water at or near the soil surface during the growing season (hydrology). The delineated features within the project areas include one wetland (Wetland A) and one water of the U.S. (Horstman Creek, identified as Stream S).

Wetland A is a small emergent wetland that is fringe to perennial Stream S. It is dominated by jewelweed (*Impatiens palida*) and also contains species such as beggar ticks (*Bidens frondosa*), sensitive fern (*Onoclea sensibilis),* silky dogwood (*Cornus amomum*), box elder (*Acer negundo*), multiflora rose (*Rosa multiflora*), river bank grape (*Vitis riparia*), and Virginia creeper (*Parthenocissus quinquefolia).* Observed hydrology indicators included saturation (A3) and a positive FAC-Neutral Test (D5). The hydric soil indicator is redox dark surface (F6). Wetland A is federally jurisdictional due to its direct connection to a perennial stream.

4.14.1.2 Floodplains

EO 11988 defines floodplains as the *"lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, including at a minimum, the area subject to a one percent or greater chance of flooding in a given year."* EO 11988 intends to ensure that floodplains and floodways are kept clear of obstructions and facilities that could restrict or increase flow rates or volumes during flood conditions. Encroachment is defined as any action that would cause the 100-year water surface profile to rise by one foot or more. The 100-year floodplain has been adopted by the Federal Emergency Management Agency (FEMA) as the base flood for floodplain management. Both federal and state laws regulate development within floodplains and floodways.

According to FEMA's Flood Insurance Rate Maps (FIRM), dated January 8, 2014, (Panel Number 36093 C01520 D), a portion of the project area is located within the 100-year floodplain associated with Horstman Creek (Appendix D).

4.14.1.3 Surface & Groundwater

The only surface water within the project areas is Horstman Creek, a perennial steam designated by the NYSDEC as Class C/ Standard C. According to the NYSDEC, the best usage of Class C waters is fishing. The waters are suitable for fish and wildlife circulation. The water quality should also be suitable for primary and secondary contact recreation. Horstman Creek (Stream S) is a tributary of the Kromme Kill, which is a tributary of the Mohawk River. The Mohawk River is a component of the NYS Canal and, therefore, is a TNW. As a result of these downstream connections, Stream S is federally jurisdictional.

The EPA and the NYSDEC regulate non-point sources of water pollution. Under the National Pollutant Discharge Elimination System (NPDES), projects involving an acre or more of disturbance are required to provide water quality treatment for runoff in accordance with established guidelines. States are offered the opportunity to

administer this program, provided the regulations they promulgate are the same as or more stringent than the federal regulations. New York has adopted this program and requires all projects disturbing one or more acres of land to comply with the State Pollutant Discharge Elimination System (SPDES) General Construction Permit.

Based on a review of the EPA's Sole Source Aquifer mapper, the project areas are located over the Schenectady-Niskayuna sole source aquifer.

4.14.1.4 Wild & Scenic Rivers

The Wild and Scenic Rivers Act (PL 90-542, as amended) was implemented to facilitate the protection of rivers possessing *"outstandingly remarkable scenic, recreational, geological, fish and wildlife, historic, cultural, or any other similar values."* The U.S. Department of the Interior (DOI) maintains a national inventory of river segments that appear to qualify for inclusion in the National Wild and Scenic River System.

According to the National Park Service National Rivers Inventory website, there are no river segments designated as Wild and Scenic Rivers in the vicinity of the project areas. According to the NYSDEC list of Wild, Scenic and Recreational Rivers, no state-designated rivers are in the vicinity of the project areas.

4.14.2 Environmental Consequences

FAA Order 1050.1F specifies the consideration of surface waters, groundwater, wetlands, floodplains, and Wild and Scenic Rivers. As previously stated, Wild and Scenic Rivers are not present near the project areas.

4.14.2.1 No-Action Alternative

The No-Action Alternative would not involve tree removal, stump removal, grading, or changes within the project areas; therefore, no construction impacts to wetlands, floodplains, surface waters, or groundwater would occur.

4.14.2.2 Sponsor's Proposed Action

Wetlands

Wetlands would be significantly impacted if the Sponsor's Proposed Action were to:

- Adversely affect the function of a wetland relative to the quality and quantity of municipal water supplies and maintenance of natural systems
- Substantially alter the hydrology necessary to sustain a wetland
- Substantially reduce the ability of a wetland to retain floodwaters or storm runoff
- Promote the development of secondary activities that would cause the circumstances listed above

The Sponsor's Proposed Action does not involve the removal of any trees within the Wetland A. The wetland would be identified on any removal plans, and the contractor would be responsible for locating their staging area to avoid the wetland. Sedimentation and erosion controls would be incorporated into the design plans.

A Section 404 permit would not be required from the USACE; therefore, no consultation with the USACE has occurred. The project does not propose any fill within wetlands or waters of the United States. Additionally, since there are no state wetlands or associated 100-foot adjacent areas within the project areas, an Article 24 Freshwater Wetlands permit would not be required from the NYSDEC.

Floodplains

The FEMA flood zone map shows Zone A (100-year floodplain), associated with Horstman Creek, within a portion of the project area (Figure 3-1 and Appendix D). Approximately six tree groupings located within the 100-year floodplain are anticipated to be removed as part of the Sponsor's Proposed Action. These tree groups are located in the residential area would be cut, the stump ground, and top soiled/seeded. This is a small number of trees and

the ground disturbance would be minimal. The existing ground elevations would not change. The remaining vegetation will minimize any potential runoff and erosion and sedimentation controls will be used.

The individual tree removal within the floodplain, would not have a significant effect on runoff rates. The proposed tree removal will be selective in the floodplain, and the remaining vegetation will minimize runoff. In addition, as a general rule, runoff in close proximity to a waterbody reaches the stream or river ahead of the peak runoff coming from the upstream watershed. Therefore, even if there is additional runoff due the loss some of the trees, it is highly unlikely that it would contribute to the peak flow or have any impact on the 100-year flood elevation.

The Sponsor's Proposed Action would not result in development or impermeable surfaces and will not result in fill within the floodplain or otherwise restrict the floodplain such that flood elevations would rise. Therefore, there would be no significant impact to the floodplain. The Sponsor's Proposed Action would not cause notable adverse impacts on natural and beneficial floodplain values.

Surface & Ground Water

Pursuant to FAA Order 1050.1F, Desk Reference, a significant impact on surface waters or groundwater would exist if the action were to impact water quality standards established by federal, state, local, or tribal regulatory agencies or contaminate the public drinking water supply, including an aquifer used for public water supply.

There would be no impact on Horstman Creek. There would be no increase in impervious surfaces resulting from the Sponsor's Proposed Action as the proposed removal techniques will minimize soil exposure.

As previously stated, the Sponsor's Proposed Action is over the Schenectady-Niskayuna sole source aquifer. However, no new impervious surfaces or drainage changes are proposed. Given the nature of the proposed action, impacts on the aquifer are not anticipated.

Erosion and sedimentation of all exposed soils during tree removal would be minimized by the use of erosion and sedimentation control measures for tree removal, including temporary silt fence, check dams, straw mulch, and geotextile fabric on steeper slopes, as necessary. These measures are to be employed until the impacted areas are stabilized and vegetative coverage is adequate to minimize erosion. Adherence to the soil and erosion control plan as required in the Stormwater Pollution Prevention Plan (SWPPP) would mitigate any potential impacts. The SWPPP would be prepared prior to construction.

4.15 SUMMARY OF CONSEQUENCES

Table 4-6 summarizes the anticipated impacts and key issues associated with the Sponsor's Proposed Action. The project is not anticipated to result in any significant impacts or environmental concerns.

Table 4-7: Summary of Potential Impacts and Key Issues

IMPACT CATEGORY	SPONSOR'S PROPOSED ACTION POTENTIAL IMPACT	NO-ACTION ALTERNATIVE POTENTIAL IMPACT
Air Quality	The estimated emissions are well below the thresholds for all pollutants. As a result, there would be no impact on air quality.	No Significant Impact
Biological Resources	The USFWS and NMFS identified no federally listed species, critical habitat, or essential fish habitat. Review of the NYSDEC ERM indicated no state threatened or endangered species are known to occur within the project areas. Tree cutting will be completed between	No Significant Impact

IMPACT CATEGORY	SPONSOR'S PROPOSED ACTION POTENTIAL IMPACT	NO-ACTION ALTERNATIVE POTENTIAL IMPACT
	November and March to avoid the breeding season of migratory birds.	
Climate	The project does not include the installation of any emission sources and would not cause permanent increases in air or local traffic. Temporary increases in emissions from construction equipment are not significant and would have no significant impact on climate.	No Significant Impact
Coastal Resources	There are no coastal resources within the project areas.	No Significant Impact
Department of Transportation Act, Section 4(f)	There would be no tree removal within Veteran's Memorial Park. No impacts to 4(f) lands are proposed.	No Significant Impact
Farmlands	No conversion of farmland to non-agricultural uses is proposed.	No Significant Impact
Hazardous Materials, Solid Waste, and Pollution Prevention	The project would not violate regulations, does not involve a known contaminated site, would not produce hazardous waste, would have limited solid waste generation, and would not adversely affect human health and the environment. Therefore, there would be no significant impact.	No Significant Impact
Historical, Architectural, Archaeological, and Cultural Resources	NYSOPRHP has indicated that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking. The FAA issued a No Adverse Effect finding on March 23, 2021	No Significant Impact
Land Use	The project would not cause a change in land use and is consistent with local zoning. No land use impacts are anticipated.	No Significant Impact
Natural Resources and Energy Supply	The project would require a limited amount of natural resources and energy during tree cutting activities. No significant or permanent impacts to these resources will occur.	No Significant Impact
Noise and Noise-Compatible Land Use	Nearby residents could experience short-term noise impacts during construction. These impacts would take place from Monday through Friday from the hours of 7:00 AM to 5:00 PM. Work would not occur on Saturdays, Sundays, and state and federal holidays or from 5:00 PM to 7:00 AM without permission from the municipality. Additionally, construction equipment would be properly maintained. No significant adverse impacts are anticipated.	No Significant Impact
Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks	The project would not result in any changes to land uses, the delivery of public services, or the availability of jobs. No impacts to an environmental justice area or to children's health or safety are proposed.	No Significant Impact

IMPACT CATEGORY	SPONSOR'S PROPOSED ACTION POTENTIAL IMPACT	NO-ACTION ALTERNATIVE POTENTIAL IMPACT
Visual Effects	The project would not create any light emissions or impact the project area's visual resources and visual character.	No Significant Impact
Water Resources	No impact on the stream is proposed, no tree cutting within wetland is proposed, and the project areas are not near New York State mapped wetlands. Therefore, no NYSDEC or USACE permits are required. A small number of trees are proposed to be cut within the floodplain; however, there would be no impact on flood elevations. There would be no impact on the sole source aquifer. There would be no increase in impervious surfaces, and the proposed removal techniques will minimize soil exposure. There would be no impact on any designated Wild and Scenic Rivers. No significant water quality impacts will occur due to adherence with an SWPPP that will be prepared prior to construction.	No Significant Impact

5 PUBLIC OUTREACH

This draft document was released for public review in August 2022 and advertised in the following publications:

- The Daily Gazette
- County website

The text of the draft release notice advertisement is provided below. The Airport and the Schenectady County Engineering & Public Works Department were provided a copy of the release notice, along with a copy of the Draft EA. The release notice includes the website link to download the Draft EA from the County website. A virutal public meeting was held on August 31, 2022 and the comment period closed on September 15, 2022. Appendix G of the Final EA contains affidavits of the meeting advertisements and copies of all written comments received.

Text of Draft EA release notice advertisement:

SCHENECTADY COUNTY AIRPORT
NOTICE OF AVAILABILITY
Draft Environmental Assessment
Runway 10 Obstruction Removal Project

In accordance with the National Environmental Policy Act (NEPA), NOTICE IS HEREBY GIVEN that copies of a Draft Environmental Assessment (EA) for an Obstruction Removal Project for Runway 10 at Schenectady County Airport are available for public review and comment. The Draft EA identifies the proposed action, portrays project alternatives, and presents an evaluation of potential environmental impacts. The Draft EA can be viewed and downloaded from the County website at the following link: https://schenectadycounty.com/airport. Copies of the Draft EA are also available to be reviewed at the Schenectady County Engineering & Public Works Department, 100 Keller Avenue, Schenectady NY. Please call (518) 356-5340 ext. 3237 to schedule an appointment.

A virtual public meeting will be held from 6:00 to 7:00 P.M on Wednesday August 31, 2022. The virtual public meeting will be conducted using the Microsoft Teams platform. Instructions to access the meeting will be posted on https://schenectadycounty.com/airport. Public comments on the Draft EA may be submitted by mail to the address below or to the following email address Airportprojects@schenectadycounty.com. Comments must be received by close of business on September 15, 2022, to be considered in the Final EA.

Attn: Airport Draft EA Public Comment
Schenectady County Engineering & Public Works
100 Kellar Avenue
Schenectady, NY 12306

6 LIST OF PREPARERS

The following individuals prepared this EA on behalf of the Sponsor.

CHA Companies, Inc.

Paul McDonnell, AICP, Chief Planner

Mark Heckroth, ENV SP, Senior Project Manager

Christopher Einstein, Principal Planner

Nicholas Schwartz, Senior Landscape Architect

Nicole Frazer, Senior Scientist

Emily Handelman, Landscape Architect IV

Jay Rauschenbach, AICP, Aviation Planner

Seth Fowler, Principal Scientist

Rogina Camilli, Senior Scientist

Kevin Morris, Scientist IV